JVC

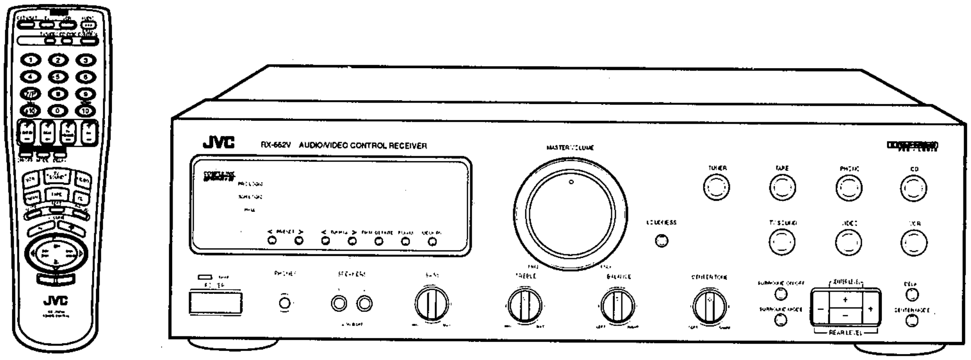
SERVICE MANUAL

AUDIO/VIDEO CONTROL RECEIVER

RX-662VBK

Area Suffix

C	Canada
J	the U.S.A


JVC
RX-662V AUDIO/VIDEO CONTROL RECEIVER
MASTER VOLUME
JVC

COMPU LINK
Remote

Contents

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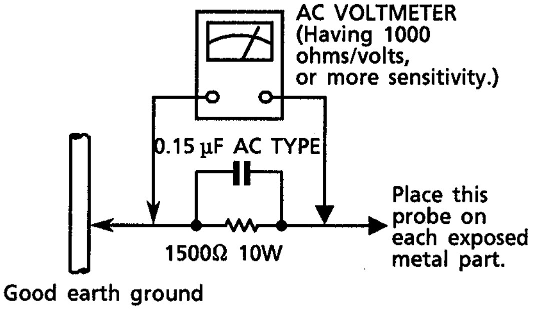
No. 20604
Jan. 1997

Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute repalcement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after reassembling.
5. Leakage currnet check (Electrical shock hazard testing)
   After reassembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, contorl shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500Ω 10 W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and meausre the AC voltage across the resistor.
     Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

Instruction Book

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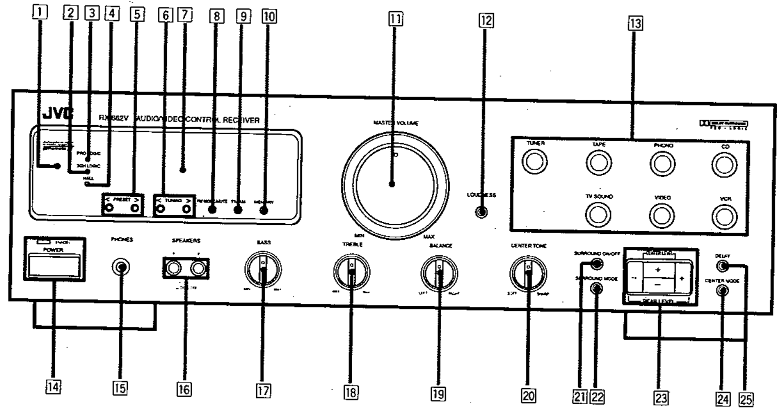
Introduction

Become familiar with the buttons and controls on the receiver before use.

Switches, Buttons and Controls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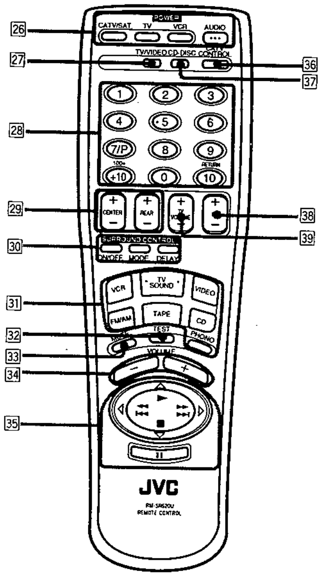
JVC
AUDIO/VIDEO CONTROL RECEIVER
MASTER VOLUME
LOUDNESS
TUNER
TAPE
PHONO
CD
TV SOUND
VIDEO
VCR
POWER
PHONES
SPEAKERS
BASS
TREBLE
BALANCE
CENTER TONE
SURROUND ON/OFF
SURROUND MODE
DELAY
CENTER MODE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32
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34
35
36
37
38
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POWER
CATV/SAT
TV
VCR
AUDIO
TV/VIDEO CD-DISC CONTROL
1
2
3
4
5
6
7/P
8
9
+10
0
10
CENTER
REAR
SURROUND CONTROL
ON/OFF
MODE
DELAY
VCR
TV SOUND
VIDEO
FM/AM
TAPE
CD
TEST
PHONO
VOLUME
JVC

Refer to the pages in parentheses for details.

Front Panel

1. Remote sensor
2. 3CH LOGIC indicator (16, 17)
3. PRO LOGIC indicator (16, 17)
4. HALL indicator (14)
5. PRESET buttons (<, >) (12)
6. TUNING buttons (<, >) (12)
7. Display (9)
8. FM MODE/MUTE button (13)
9. FM/AM button (12)
10. MEMORY button (12)
11. MASTER VOLUME control (10)
12. LOUDNESS button (11)
13. Source selecting buttons (TUNER, TAPE, PHONO, CD, TV SOUND, VIDEO, VCR) (9)
14. POWER button and STANDBY indicator (9)
15. PHONES jack (11)
16. SPEAKERS 1/2 buttons (10)
17. BASS control (10)
18. TREBLE control (10)
19. BALANCE control (10)
20. CENTER TONE control (17)
21. SURROUND ON/OFF button (14, 16, 17)
22. SURROUND MODE button (14, 16, 17)
23. CENTER LEVEL/REAR LEVEL buttons (+ / –) (17)
24. CENTER MODE button (16)
25. DELAY button (16)

Remote Control

26. POWER section (CATV/SAT., TV, VCR, and AUDIO buttons) (9, 20, 21, 22, 23)
27. TV/VIDEO button (20, 21)
28. 10 keys (19)
29. CENTER (+/–)/REAR (+/–) buttons (17)
30. SURROUND CONTROL section (ON/OFF, MODE and DELAY buttons) (14, 16, 17)
31. Source selecting buttons (VCR, TV SOUND, VIDEO, FM/AM, TAPE, CD, PHONO) (9, 19, 20)
32. TEST button (16, 17)
33. MUTE button (11)
34. VOLUME (+/–) buttons (10)
35. Operating buttons for JVC audio/video components (19, 20)
36. CATV CONTROL button (22)
37. CD-DISC button (19)
38. CH (+/–) button (20, 21, 22, 23)
39. TV VOLUME (+/–) button (20, 21)

Getting Started

This section explains how to connect stereo components and speakers to the receiver, and how to connect the power supply.

Before Installation

General
- Be sure your hands are dry.
- Turn the power off to all components.
- Read the manuals supplied with the components you are going to connect.

Locations
- Install the receiver in a location that is level and protected from moisture.
- The temperature around the receiver must be between 23° and 95° F (–5° and 35° C).
- Make sure there is good ventilation around the receiver. Poor ventilation could cause overheating and damage the receiver.

Handling the receiver
- Do not insert any metal object into the receiver.
- Do not disassemble the receiver or remove screws, covers, or cabinet.
- Do not expose the receiver to rain or moisture.

Checking the Supplied Accessories

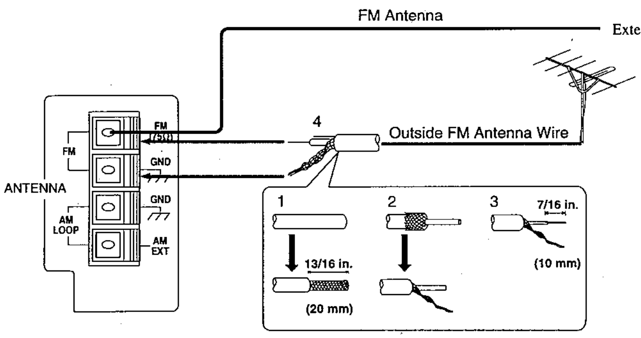
Check to be sure you have all of the following items, which are supplied with the receiver.
The number in the parentheses indicates quantity of the pieces supplied.

- Remote Control (1)
- Batteries (2)
- AM Loop Antenna (1)
- FM Antenna (1)

If anything is missing, contact your dealer immediately.

Connecting the FM and AM Antennas

FM Antenna Connections



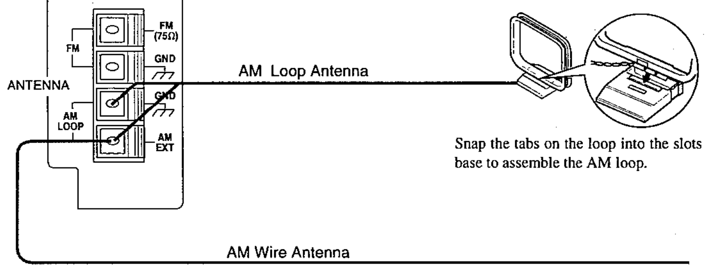
Extend the FM antenna horizontally.

If reception is poor, connect the outside antenna.
Before attaching a 75-ohm coaxial cable (the kind with a round wire going to an outside antenna), disconnect the supplied FM antenna.

How to strip the 75-ohm coaxial cable and connect it to the FM terminals

1. Strip back the outside covering of the 75-ohm coaxial cable to expose the braided metallic mesh.
2. Pull the mesh back and twist into a single connector as shown in the illustration above.
3. Strip the insulation about 7/16 inches (10 mm) back from the central wire.
4. Insert the twisted mesh and the central wire to the FM terminals, as shown in the illustration above.

AM Antenna Connections



Turn the loop until you have the best reception.

Snap the tabs on the loop into the slots of the base to assemble the AM loop.

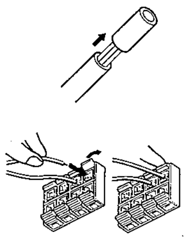
If reception is poor, connect an outdoor single vinyl-covered wire to the AM EXT terminal. (Keep the AM loop antenna connected.)

Note :
Make sure the antenna conductors do not touch any other terminals, connecting cords and power cord. This could cause poor reception.

Connecting the Speakers

You can connect the following speakers:
- Two sets of front speakers to produce normal stereo sound
- One set of rear speakers to enjoy the surround effect
- One center speaker to produce more effective surround effect (to make human voices outstanding)
- One subwoofer speaker to enhance the bass. For connecting a subwoofer, see page 6.

For each speaker, connect one end of the speaker signal cable (not supplied) to the speaker terminal on the rear panel and the other end to the speaker.

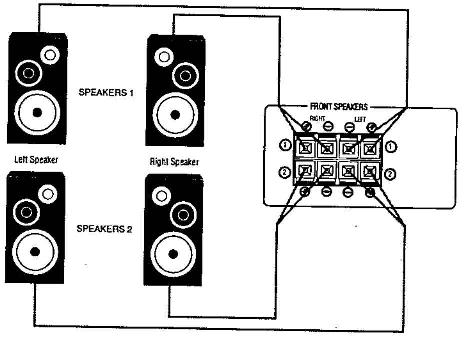


1. **Open each terminal.**
2. **Insert the end of the speaker signal cable as shown (be sure to remove the insulation at the end of each wire first).**
3. **Close the terminals to clamp the speaker signal cables firmly in place.**
4. **Connect the black (–) and red (+) terminals on the rear panel to the black (–) and red (+) terminals marked on the speakers.**

CAUTION:
Use speakers with the same impedance as marked near the terminals on the rear panel.

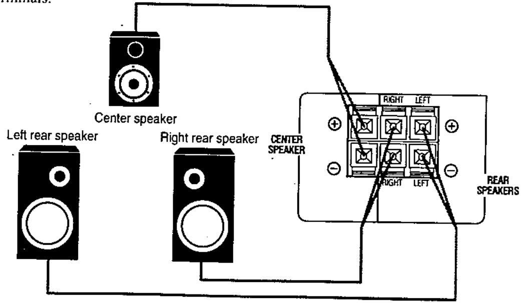
Connecting the front speakers

Connect the front speakers to the FRONT SPEAKERS terminals.


SPEAKERS 1
Left Speaker
Right Speaker
SPEAKERS 2
FRONT SPEAKERS
RIGHT
LEFT

Connecting the rear and center speakers

Connect rear speakers to the REAR SPEAKERS terminals and a center speaker to the CENTER SPEAKER terminals.

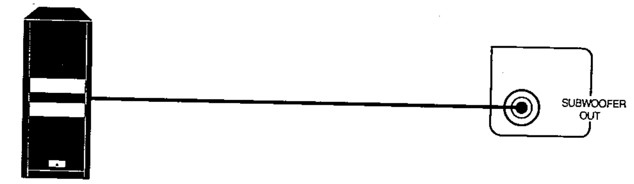

Center speaker
Left rear speaker
Right rear speaker
CENTER SPEAKER
RIGHT
LEFT
REAR SPEAKERS

Note:
When you connect rear speakers, make sure that both left and right speakers are connected; otherwise, no sound will come out of the rear speakers.

Enhancing the bass

You can enhance the bass by connecting a powered subwoofer using a cable with RCA pin plugs.

Connect the input jack of a powered subwoofer to the SUBWOOFER OUT jack on the rear panel.


SUBWOOFER OUT

Powered subwoofer

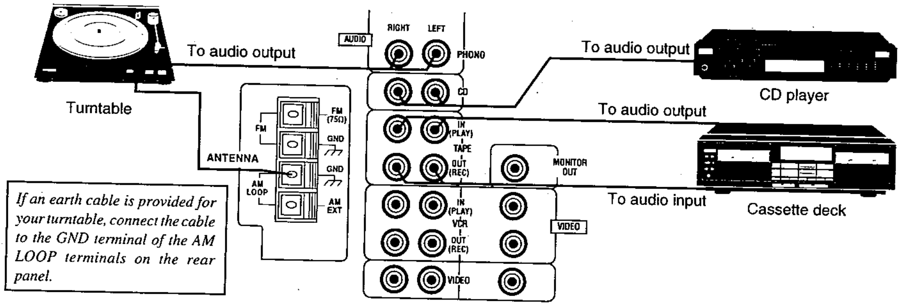
Connecting Audio/Video Components

You can connect the following components to the receiver using cables with RCA pin plugs.

Audio Components	Video Components
• Turntable	• VCR
• CD player	• Video disc player
• Cassette deck	• TV

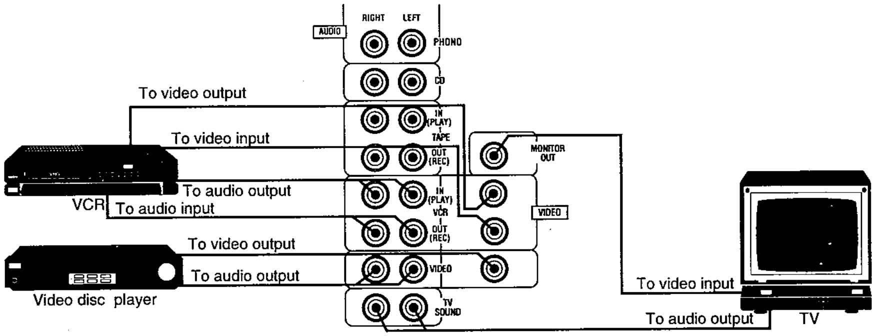
Notes:
- *Both plugs and jacks are color-coded; the red ones are for right audio signals, the white ones for left audio signals, and yellow ones for video signals.*
- *Any turntables incorporating a small-output cartridge such as an MC (moving-coil type) must be connected to this receiver through a commercial head amplifier or step-up transformer. Direct connection may result in insufficient volume.*

Audio component connections


Turntable
To audio output
AUDIO
RIGHT
LEFT
PHONO
CD
IN (PLAY)
TAPE
OUT (REC)
MONITOR OUT
IN (PLAY)
VCR
OUT (REC)
VIDEO
VIDEO
ANTENNA
FM
FM (75Ω)
GND
GND
AM LOOP
AM EXT
To audio output
CD player
To audio output
To audio input
Cassette deck

If an earth cable is provided for your turntable, connect the cable to the GND terminal of the AM LOOP terminals on the rear panel.

Video component connections



CAUTION:
If you connect a sound-increasing device such as a graphic equalizer between the source components and this receiver, the sound output through this receiver may be distorted.

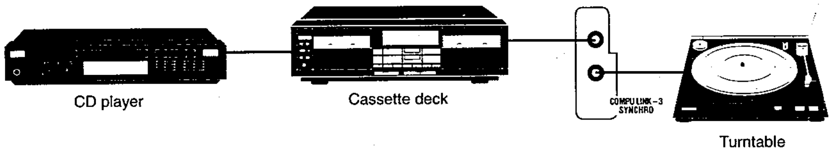
Connecting Audio Components for the COMPU LINK-3 Remote Control System

The COMPU LINK-3 remote control system allows you to control other JVC audio components from the receiver or vice versa. To use this system, connect your JVC audio components and the receiver with the cable (monaural mini-plug) supplied with those components.

If your audio component has two COMPU LINK-3 SYNCHRO jacks, you can use either one.
If it has only one COMPU LINK-3 SYNCHRO jack, connect it so that it is the last item in the series of components. (for example, the turntable in the diagram below)

Notes:

- *The COMPU LINK-3 remote control system is the upgraded version of the COMPU LINK-1 and COMPU LINK-2. Even if your component has the COMPU LINK-1 or COMPU LINK-2 jacks, you can still connect it in the COMPU LINK-3 remote control system, but some functions may not work correctly.*
- *For more information about the COMPU LINK-3 (-1 and -2) remote control system, see page 18.*



Connecting the Power Cord

Before plugging the receiver into an AC outlet, make sure that all connections have been made.
When the power cord is connected, the STANDBY indicator above the POWER button lights up.

Keep the power cord away from the connecting cables for the TV, VCR, and antenna. The power cord may cause noise or screen interference. We recommend that you use a coaxial cable to connect the antenna, since it is well-shielded against interference.

Notes:

- *A small amount of power is always consumed even in standby mode. To switch off the power completely, unplug the power cord from the AC outlet.*
- *If the power cord is unplugged or a power failure occurs, preset settings will be erased in a few days.*

CAUTIONS:

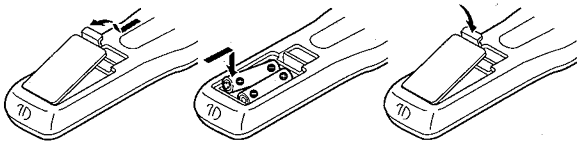
- Do not touch the power cord with wet hands.
- Do not pull on the power cord to unplug the receiver. When unplugging the receiver, always grasp the plug itself so as not to damage the cord.

Putting Batteries in the Remote Control

Before using the remote control, put two supplied batteries first. When using the remote control, aim the remote control directly at the remote sensor on the receiver.

1. **On the back of the remote control, remove the cover as illustrated.**
2. **Insert batteries. Make sure to observe the proper polarity: (+) to (+) and (–) to (–).**
3. **Replace the cover in.**

R6P (SUM-3)/AA (15F)



If the range or effectiveness of the remote control decreases, replace the batteries. Use two R6P (SUM-3)/ AA (15F) type dry-cell batteries.

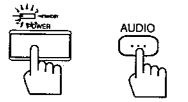
CAUTIONS:
Follow these precautions to avoid leaking or cracking cells:

- Place batteries in the remote control so they match the polarity indicated: (+) to (+) and (–) to (–).
- Use the correct type of batteries. Batteries that look similar may differ in voltage.
- Always replace both batteries at the same time.
- Do not expose batteries to heat or flame.

Basic Operations

The following operations are commonly used when you play any sound source.

Turning the Power On and Off



On the front panel

From the remote control

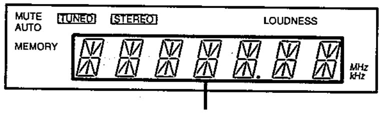
To turn on the power, press the POWER button on the front panel or the AUDIO button on the remote control. The STANDBY indicator goes off.

To turn off the power, press the POWER button or AUDIO button on the remote control again. The STANDBY indicator lights up.

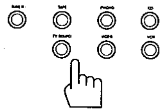
Selecting the Source to Play

You need to select the source to listen before you start playing any source.

Press one of the source selecting buttons so that the source name appears on the display.



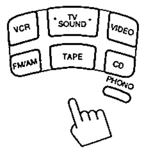
Selected source name appears



On the front panel

On the front panel:

TUNER	Listen to an FM or AM broadcast. You can also change the source to the tuner by pressing the FM/AM button.
TAPE	Listen to the cassette deck connected to the TAPE jacks.
PHONO	Listen to a record.
CD	Listen to the CD player.
TV SOUND	Listen to the TV sound.
VIDEO	View the video component connected to the VIDEO jacks.
VCR	View the video component connected to the VCR jacks.



From the remote control

From the remote control:

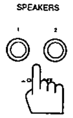
VCR	View the video component connected to the VCR jacks.
TV SOUND**	Listen to the TV sound.
VIDEO	View the video component connected to the VIDEO jacks.
FM/AM*	Listen to an FM or AM broadcast. Each time you press the button, the band alternates between FM and AM.
TAPE*	Listen to the cassette deck connected to the TAPE jacks.
CD*	Listen to the CD player.
PHONO*	Listen to a record.

Notes:

* *When you press one of the source selecting buttons on the remote control marked above with an asterisk, the receiver automatically turns on.*

** *If you press the TV SOUND button toward a JVC TV, the TV's input mode changes to TV.*

Selecting the Front Speakers

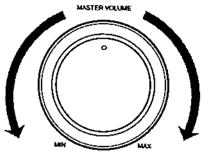


When you have connected two sets of front speakers, you can select which to use. Pressing in the SPEAKERS 1 or SPEAKERS 2 button activates the respective set of speakers.

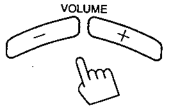
To use the set of speakers connected to the FRONT SPEAKERS ① terminals, press in the SPEAKERS 1 button (▂ON), and press out the SPEAKERS 2 button (█OFF).
To use the set of speakers connected to the FRONT SPEAKERS ② terminals, press in the SPEAKERS 2 button (▂ON), and press out the SPEAKERS 1 button (█OFF).
To use both sets of speakers, press in both the SPEAKERS 1 and 2 buttons (▂ON).
To use neither set of speakers, press out both the SPEAKERS 1 and 2 buttons (█OFF).

Note:
When only one set of the front speakers is connected to either the FRONT SPEAKERS ① or ② terminals, do not press in both SPEAKERS 1 and 2 buttons (▂ON). If you do, no sound comes out of the front speakers.

Adjusting the Volume



On the front panel



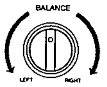
From the remote control

On the front panel:
To increase the volume, turn the MASTER VOLUME control clockwise.
To decrease the volume, turn it counterclockwise.

From the remote control:
To increase the volume, press the VOLUME + button.
To decrease the volume, press the VOLUME – button.

CAUTION:
Always set the MASTER VOLUME control to the minimum before starting any source. If the MASTER VOLUME control is left turned up, the sudden blast of sound energy can permanently damage your hearing and/or ruin your speakers.

Adjusting the Front Speaker Output Balance



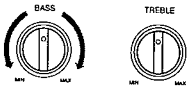
If the sounds you hear from the front right and left speakers are unequal, you can adjust the speaker output balance with the BALANCE control.

To decrease the left channel sound, turn the BALANCE control clockwise.
To decrease the right channel sound, turn the BALANCE control counterclockwise.
When set to the center position, no adjustment is applied.

Adjusting the Tone

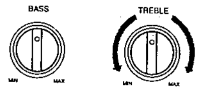
You can increase or decrease the amount of bass and treble reinforcement.

Adjusting the bass



To increase the bass reinforcement, turn the BASS control clockwise.
To decrease the bass reinforcement, turn the BASS control counterclockwise.
When set to the center position, no bass reinforcement is applied.

Adjusting the treble



To increase the treble reinforcement, turn the TREBLE control clockwise.
To decrease the treble reinforcement, turn the TREBLE control counterclockwise.
When set to the center position, no treble reinforcement is applied.

Listening at Low Volume (Loudness)

Human ears are not sensitive to bass at low volume. To compensate for this, the loudness function automatically boosts the bass level as you lower the volume.

To use the loudness function, press the LOUDNESS button on the front panel.
The LOUDNESS indicator lights up on the display.

To turn the function off, press the LOUDNESS button again.
The LOUDNESS indicator goes off.

Muting the Sound

You can easily turn down the volume by pressing the MUTE button on the remote control.

To mute the sound through all speakers and headphones connected
Press the MUTE button so that "MUTING" appears on the display and the VOLUME control turns down.

To cancel the mute, press the VOLUME + button (or the VOLUME – button) on the remote control.

Recording a Source

You can record any source playing through the receiver to the cassette deck connected to the TAPE jacks and the VCR connected to the VCR jacks at the same time.
While recording, you can listen to the selected sound source at whatever sound and tone settings you like, without affecting the sound levels of the recording.

Note:
- *The output volume level, tone adjustments, as well as surround effects (page 14) cannot affect the recording.*

Listening with Headphones

A standard pair of headphones can be connected to the PHONES jack on the front panel. **Be sure to turn down the volume before connecting or putting on headphones, as high volume can damage both the headphones and your hearing.**

To listen with only headphones
Press out both the SPEAKERS 1 and 2 buttons (■OFF).

Receiving Radio Broadcasts

You can browse through all the stations or use the preset function to go immediately to a particular station.

Tuning in Stations Manually

TUNER
FM/AM
< TUNING >

1. **Press the TUNER button on the front panel.**
   The last received station of the last received band is tuned in.
2. **Press the FM/AM button to select the band.**
   Each time you press the FM/AM button, the band alternates between FM and AM.
3. **Press the TUNING < or > button on the front panel repeatedly until you find the frequency you want.**
   Pressing the TUNING > button increases the frequency.
   Pressing the TUNING < button decreases the frequency.

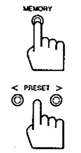
Notes:
- *You do not have to press the TUNER button to change the source to the tuner in Step 1. Pressing the FM/AM button in Step 2 can also change the source to the tuner.*
- *When you press the TUNING < or > button for a while, the frequency keeps changing until you press the TUNING < or > button again or a station is tuned in.*
- *When a station of sufficient signal strength is tuned in, the TUNED indicator lights up on the display.*
- *When an FM stereo program is received, the STEREO indicator also lights up.*

Using the Preset Tuning

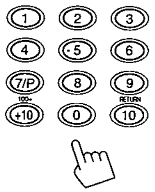
Once a station is assigned to a channel number, the station can be quickly tuned. You can preset up to 40 stations at random.

In some cases, test frequencies have been already memorized for the tuner since the factory examined the preset function before shipment. This is not a malfunction. You can preset the stations you want into memory by following the presetting method.

Storing the preset stations



On the front panel



From the remote control

The FM reception mode is also memorized when you presetting stations. Select the FM reception mode if you want before presetting a station. (See page 13.)

1. **Tune in the station you want to preset (see above).**
2. **Press the MEMORY button on the front panel.**
   "— — CH" and the MEMORY indicator appear on the display for 5 seconds.
3. **Select a channel number within the 5 seconds.**
   On the front panel:
   Press the PRESET < or > button.
   Pressing the PRESET > button increases the channel number.
   Pressing the PRESET < button decreases the channel number.
   From the remote control:
   Press the 10 keys.
   Examples: For channel number 5, press 5. For channel number 15, press +10 then 5.
   For channel number 20, press +10 then 10.
   Note:
   When you use the remote control, be sure that the 10 keys are activated for tuner, not for the CD player and others. (See page 19.)
4. **Press the MEMORY button again while the selected channel number is flashing on the display.**
   The selected channel number stops flashing and the MEMORY indicator goes off, and the station is assigned to the selected channel number.

To cancel a stored preset station
Storing a new station on a used number erases the previously stored one.

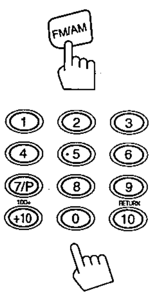
CAUTION:
Preset stations may be erased when power is cut off to the receiver, as when it is unplugged from the AC outlet or a power failure occurs. If the preset stations are lost, simply set the stations again using the above procedure.

Tuning in a Preset Station

On the front panel:

1. **Press the TUNER button.**
   The last received station of the last received band is tuned in.
   You can also press the FM/AM button instead.

2. **Press the PRESET < or > button to select a preset channel number.**
   Pressing the PRESET > button changes preset channels in increasing order.
   Pressing the PRESET < button changes preset channels in decreasing order.



From the remote control:

1. **Press the FM/AM button.**
   The last received station of the last selected band is tuned in.
   Each time you press the button, the band alternates between FM and AM.

2. **Press the 10 keys to select a preset channel number.**
   Examples: For channel number 5, press 5. For channel number 15, press +10 then 5.
   For channel number 20, press +10 then 10.

   Note:
   When you use the remote control, be sure that the 10 keys are activated for tuner, not for the CD player and others. (See page 19.)

Selecting the FM Reception Mode

FM MODE/MUTE

You can change the FM reception mode so that reception will be improved.

When an FM stereo broadcast is hard to receive or noisy
Press the FM MODE/MUTE button on the front panel. The MUTE AUTO indicator goes off on the display. Reception will be improved although you will lose the stereo effect. In this mode, you will hear noise while tuning into the stations.

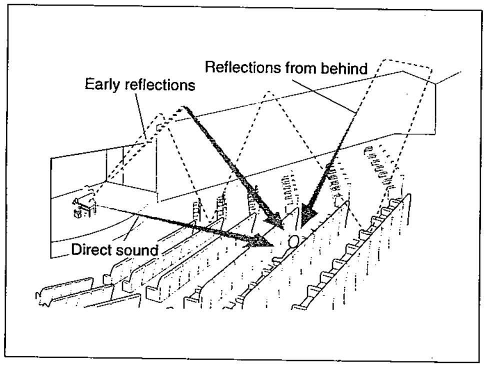
To restore stereo effect
Press the FM MODE/MUTE button again so that the MUTE AUTO indicator lights up on the display. In this mode, when a program is broadcast in stereo, you will hear stereo sound; when in monaural, you will hear monaural sounds. This mode is also useful to suppress static noise between stations.

Using the Surround Processor

The built-in surround processor provides three types of surround programs — Dolby Pro Logic, Dolby 3-Channel Logic, and JVC's Hall Surround.

What is surround?

The sound heard in a concert hall or a movie theater consists of direct sound and indirect sound: early reflections and reflections from behind. The reflected sounds are always delayed by the distances of the ceiling and walls from the listener. These reflections are some of the most important elements of the acoustic surround.



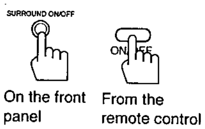
On JVC's Hall Surround
In order to reproduce a more realistic sound field in your listening room while playing an ordinary stereo source, JVC's Hall Surround has been designed to give you clear vocals and to create the feeling of a concert hall. The sound is reproduced through the front speakers and rear speakers.

On Dolby Surround
Dolby Surround has been also developed to reproduce the important elements of the acoustic surround at home.
To watch the soundtracks of video software bearing the mark DOLBY SURROUND * which includes the same encoded surround information as found in Dolby Stereo films, the receiver can provide you with 2 Dolby Surround programs (Dolby Pro Logic and Dolby 3ch Logic).
Dolby Pro Logic: Select this mode when the optional rear speakers are connected.
Dolby 3ch Logic: Select this mode when a center speaker is connected without rear speakers.

Notes:
- *The surround processor has no effect on monaural sources.*
- *The surround processor cannot be used for recording.*

* *Manufactured under license from Dolby Laboratories Licensing Corporation. Additionally licensed under Canadian patent number 1,037,877. "Dolby," "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.*

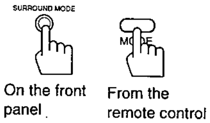
Using JVC's Hall Surround



You need to connect one set of rear speakers to obtain the full effect.

1. **Press the SURROUND ON/OFF button (or the ON/OFF button on the remote control).**
   One of the surround program indicators (PRO LOGIC, 3CH LOGIC, or HALL) lights up on the display.

2. **Press the SURROUND MODE button (or the MODE button on the remote control) repeatedly until the HALL indicator lights up on the display.**



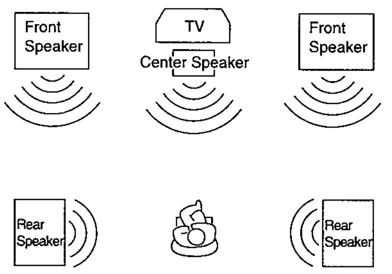
To cancel Hall Surround, press the SURROUND ON/OFF button (or the ON/OFF button on the remote control) again.

Note:
You can also adjust the delay time (see Step 4 on page 16) and the sound level of the rear speakers (see Step 6 on page 17) for Hall Surround. Once you have adjusted the delay time for the Hall Surround, the receiver memorizes the setting.

Speaker arrangements for Dolby Surround

The following illustrations show how to obtain the optimum sound environment for various Dolby Surround settings. Try to find the speaker direction and location to create the optimum sound field.

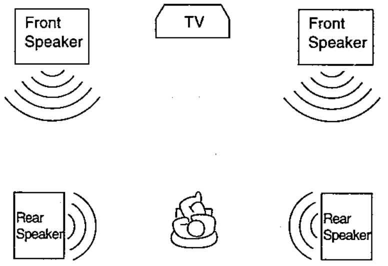
CASE 1 **When you have added a center speaker and rear speakers**



In this case:
1. Select PRO LOGIC.
2. Select NORMAL or WIDE for center mode.

See pages 16 and 17 for more details.

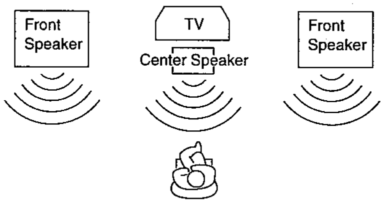
CASE 2 **When you have added rear speakers**



In this case:
1. Select PRO LOGIC.
2. Select PHANTOM for center mode.

See pages 16 and 17 for more details.

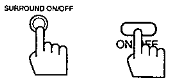
CASE 3 **When you have added a center speaker (without rear speakers)**



In this case:
1. Select 3CH LOGIC.
2. Select NORMAL or WIDE for center mode.

See pages 16 and 17 for more details.

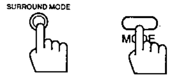
Preparing for Dolby Surround



On the front panel   From the remote control

The receiver memorizes two sets of Dolby Surround adjustments; one for Pro Logic and the other for 3ch Logic. However, the sound levels of center and rear speakers cannot be stored separately.

1. **Press the SURROUND ON/OFF button (or the ON/OFF button on the remote control).**
   One of the surround program indicators lights up on the display.

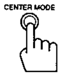


On the front panel   From the remote control

2. **Press the SURROUND MODE button (or the MODE button on the remote control).**
   Each time you press the button, the surround program changes as follows:

→PRO LOGIC (DOLBY) → 3CH LOGIC (DOLBY) → HALL

PRO LOGIC: Select this mode when you use the rear speakers
3CH LOGIC: Select this mode when you use no rear speakers
HALL: This is JVC's original surround program, and is different from Dolby Surround. To use this, see page 14.



3. **Press the CENTER MODE button on the front panel.**
   Each time you press the CENTER MODE button, the mode changes as follows.

→PHANTOM → NORMAL → WIDE → OFF

PHANTOM: Select this mode when you do not use a center speaker. The center speaker channel signals are output through the front speakers.
NORMAL: Select this mode when the center speaker cannot reproduce the bass better than the front speakers. The bass portions of the center channel signals are output through the front speakers.
WIDE: Select this mode when the center speaker can reproduce the bass better than the front speakers. All signals of the center channel are output through the center speaker.
OFF: Select this mode to turn off the center speaker channel.

Note:
When you have selected 3CH LOGIC in Step 2 above, you cannot select PHANTOM.

On the front panel

From the remote control

4. **Press the DELAY button to set the delay time of the delayed sound.**
   Each time you press the button, the delay time changes among 3 levels.

→DELAY-1 → DELAY-2 → DELAY-3

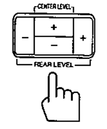
DELAY-1: When your distance to your rear speakers is greater than that to the front speakers.
DELAY-2: When your distance to your rear speakers is almost equal to that to the front speakers.
DELAY-3: When your distance to your rear speakers is less than that to the front speakers.

Note:
When you have selected 3CH LOGIC in Step 2 above, you cannot adjust the delay time.

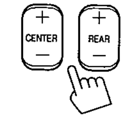
5. **Press the TEST button on the remote control to check your setting.**
   When you press the button, "TEST" starts flashing and a test tone comes out of the speakers in the following order:

→Left front speaker → Center speaker → Right front speaker → Rear speakers

Notes:
- *No test tone comes out of the rear speakers when you have selected 3CH LOGIC.*
- *No test tone comes out of the center speaker when you select PHANTOM or OFF for the center mode.*



On the front panel



From the remote control

6. **Set the levels of the center and rear speakers.**
   On the front panel:
   Press the CENTER LEVEL + / – button to set the sound level of the center speaker.
   Press the REAR LEVEL + / – button to set the sound level of the rear speakers.
   From the remote control:
   Press the CENTER + / – button to set the sound level of the center speaker.
   Press the REAR + / – button to set the sound level of the rear speakers.

Notes:
- *You can adjust these levels in 1dB steps within the range of ±10 dB. The sound levels of the left and right rear speakers will be the same.*
- *You cannot set the sound level of the rear speakers when you have selected 3CH LOGIC.*
- *You cannot set the sound level of the center speaker when you select PHANTOM or OFF for the center mode.*
- *Although the sound levels of the center and rear speakers can be stored, they are not stored separately for each surround program.*

7. **Press the TEST button on the remote control again to finish the preparation.**
   The test tone stops.

Using Dolby Surround

SURROUND ON/OFF
On the front panel

From the remote control

SURROUND MODE
On the front panel

From the remote control

Once you have set the Dolby Surround adjustments you can use the same adjustments every time you want to enjoy Dolby Surround.

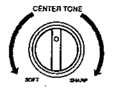
1. **Press the SURROUND ON/OFF button (or the ON/OFF button on the remote control) so that one of the surround program indicator lights up on the display.**
2. **Press the SURROUND MODE button (or the MODE button on the remote control) repeatedly if the surround program indicator (PRO LOGIC or 3CH LOGIC) you want does not light up.**
   Each time you press the button, the display changes to show the following:

   → PRO LOGIC (DOLBY) → 3CH LOGIC (DOLBY) → HALL

3. **Play a sound source which was processed with Dolby Surround and is labeled with DOLBY SURROUND mark.**

To cancel Dolby Surround, press the SURROUND ON/OFF button (or the ON/OFF button on the remote control) again.

Making dialogues in movies softer or clearer



By using the CENTER TONE control you can adjust the level of mid-frequency range, which the human voice is mostly made up of.

To make dialogue clearer, turn the control toward SHARP.
To make them softer, turn the control toward SOFT.
When set to the center position, no adjustment is applied.

Note:
The CENTER TONE control cannot be used when sounds do not come out of the center speaker.

COMPU LINK Remote Control System

The COMPU LINK remote control system allows you to operate JVC audio components through the remote sensor on the receiver.
To use this remote control system, you need to connect JVC audio components through the COMPU LINK-3 SYNCHRO jacks (see page 7) in addition to the connections using cables with RCA pin plugs (see page 6).
This remote control system allows you to use four functions listed below.

■ Remote Control through the Remote Sensor on the Receiver

You can control all audio components through the remote sensor on the receiver using this remote control.
For details, see page 19.

Note:
Aim the remote control directly at the remote sensor on the receiver.

■ Automatic Source Selection

When you press the play (▶) button on a connected component or on its own remote control, the receiver automatically turns on and changes the source to the component. On the other hand, if you select a new source on the receiver or the remote control, the selected component begins playing immediately.
In both cases, the previously selected source continues playing without sound for a few seconds.

■ Automatic Power On/Off (only possible with the COMPU LINK-3 connection)

Both the CD player and cassette deck turn on and off with the receiver.
When you turn on the receiver, the CD player or cassette deck will turn on automatically, depending which component has been previously selected.
When you turn off the receiver, both the CD player and cassette deck will turn off.

■ Synchronized Recording

Synchronized recording means the cassette deck starts recording as soon as a CD or record begins playing.

To use synchronized recording, follow these steps:
1 **Put a tape in the cassette deck, and a disc in the CD player (or a record on the turntable).**
2 **Press the record (●) button and the pause (⏸) button on the cassette deck at the same time.**
  This puts the cassette deck into recording pause.

  Note:
  If you do not press the record (●) button and pause (⏸) button at the same time, the synchronized recording feature will not operate.

3 **Press the play (▶) button on the CD player or on the turntable.**
  The source changes on the receiver, and as soon as play starts, the cassette deck starts recording.
  When the play ends, the cassette deck enters recording pause, and stops 4 seconds later.

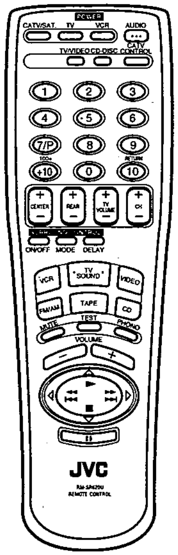
Notes:
- *During synchronized recording, the selected source cannot be changed.*
- *If your CD player is playing in program mode, a 4-second blank is recorded between tracks so that the music scan feature of your cassette deck can be used on the recorded tape.*
- *If the power of any component is shut off during synchronized recording, the COMPU LINK remote control system may not operate properly. In this case, you must start again from the beginning.*
- *Refer also to the manuals supplied with your CD player and cassette deck.*

Using the Remote Control

You can operate JVC's audio and video components with this receiver's remote control, since control signals for JVC components are preset in the remote control.
To operate these components with the remote control, first select a source with the source selecting buttons on the remote control. Then, operate that source using the remote control.

Note:
If you choose a source on the front panel, the remote control will not operate that source. To operate a source with the remote control, the source must be selected using buttons on the remote control.

IMPORTANT:
To operate JVC's audio components using this remote control:
- You need to connect JVC audio components through the COMPU LINK-3 SYNCHRO jacks (see page 7) in addition to the connections using cables with RCA pin plugs (see page 6).
- Aim the remote control directly at the remote sensor on the RX-662VBK.


POWER
CATV/SAT
TV
VCR
AUDIO
CATV
TV/VIDEO CD-DISC CONTROL
1
2
3
4
5
6
7/P
8
9
100+
+10
0
RETURN
10
CENTER
REAR
TV VOLUME
CH
ON/OFF
MODE
DELAY
VCR
TV SOUND
VIDEO
FM/AM
TAPE
CD
MUTE
TEST
PHONO
VOLUME
JVC
REMOTE CONTROL

After pressing the FM/AM button, you can perform the following operations:

FM/AM	Alternates between FM and AM.
1 — 10, +10	Selects a preset channel number directly To select channel number 5, press 5. For channel number 15, press +10, then 5. For channel number 20, press +10, then 10.

After pressing the CD button, you can perform the following operations on a CD player:

►	Starts playing
◄◄	Returns to the beginning of the current (or previous) track
►►	Skips to the beginning of the next track
■	Stops playing
❚❚	Pauses. To release pause, press ►.
1 — 10, +10	Selects a track number directly To select track number 5, press 5. For track number 15, press +10, then 5. For track number 20, press +10, then 10.

After pressing the CD-DISC button, you can perform the following operations on a CD player-changer:

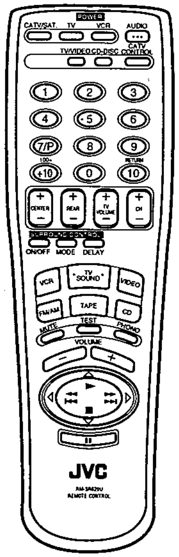
1 — 6, 7/P	Select the number of a disc installed in a CD player-changer. Then continue to operate the CD player as described above.

After pressing the TAPE button, you can perform the following operations on a cassette deck:

►	Starts playback
◄◄	Fast winds a tape from right to left
►►	Fast winds a tape from left to right
■	Stops operation
❚❚	Pauses. To release pause, press ►.

Note:
If you choose a source on the front panel, the remote control will not operate that source. To operate a source with the remote control, the source must be selected using buttons on the remote control.

IMPORTANT:
To operate JVC's video components using this remote control:
- Aim the remote control directly at the remote sensor on the VCR or TV, not on the RX-662VBK.


POWER
CATV/SAT
TV
VCR
AUDIO
CATV
TV/VIDEO CD-DISC CONTROL
1
2
3
4
5
6
7/P
8
9
100+
+10
0
RETURN
10
CENTER
REAR
TV VOLUME
CH
ON/OFF
MODE
DELAY
VCR
TV SOUND
VIDEO
FM/AM
TAPE
CD
MUTE
TEST
PHONO
VOLUME
JVC
REMOTE CONTROL

After pressing the VCR button, you can perform the following operations on a VCR:

►	Starts playback
◄◄	Rewinds a video tape
►►	Fast winds a video tape
■	Stops operation
❚❚	Pauses. To release pause, press ►.
CH+/–	Changes TV channels on a VCR
1 — 9, 0	Selects the channels on the VCR

Note:
While you are playing the source other than VCR—such as the CD player or cassette deck, you cannot operate the VCR using the remote control.

After pressing the TV SOUND, you can perform the following operations on TV:

CH +/–	Changes TV channels
TV VOLUME	Adjust the volume
1 — 9, 0, 100+	Selects the channels
TV/VIDEO	Sets the input mode (either TV or VIDEO)
RETURN	Alternates between the previously selected channel and the current channel

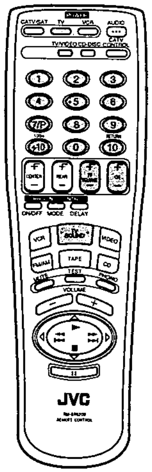
Notes:
- *You can also turn the TV on and off by pressing the CATV/SAT., TV or VCR button in the POWER section of the remote control.*

Operating Other Manufacturers's VCR, TV, CATV Converter, and Satellite Tuners

This remote control supplied with the receiver can transmit control signals for other manufacturers' VCRs, TVs and CATV converters. By changing the transmittable signals from preset ones to the other manufacturer', you can operate the other manufacturer's components using this remote control.

When operating the other manufacturers' components, refer also to the manuals supplied with them.
To operate these components with the remote control, first you need to set the manufacturer's code each for VCR, TV, CATV converters, and satellite tuner.

To change the transmittable signals for operating another manufacturer's TV



1. **Press and hold the TV button in the POWER section.**

2. **Press the TV SOUND button.**

3. **Enter the manufacturer's code (two digits) using buttons 1 — 9, and 0.**
   Please refer to the following table to find the code.

Manufacturer	Code
HITACHI	10
JVC	01
MAGNAVOX	02
MITSUBISHI	03
PANASONIC	04, 11
RCA	05
SAMSUNG	12
SANYO	13
SHARP	06
SONY	07
TOSHIBA	08
ZENITH	09

Note: Manufacturers' codes are subject to change without notice. If they are changed, this remote control cannot operate the equipment.

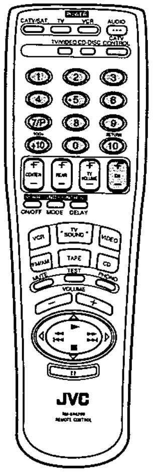
4. **Release the TV button in the POWER section.**
   The following buttons can be used for operating the TV.
   TV: Turns on and off TV.
   After pressing the TV SOUND button, you can perform the following operations on the TV:
   CH +/–: ·Changes the channels on the TV.
   TV VOLUME +/–: Adjusts the volume.
   1 — 10, 0, +10: Selects the TV channels.
   +10 button will function as the ENTER button if your TV requires pressing the ENTER button after selecting a channel number.
   TV/VIDEO: Sets the input mode (either TV or VIDEO).

   Note:
   Refer also to the manual supplied with your TV.

5. **Try to operate your TV by pressing the TV button in the POWER section.**
   When your TV turns on or off, you have entered the correct code.

6. **If there are more than one code listed for your brand of TV, try each one until the correct one is entered.**

To change the transmittable signals for operating another manufacturer's CATV converter or satellite tuner



1. **Press and hold the CATV/SAT. button in the POWER section.**

2. **Press the CATV CONTROL button.**

3. **Enter the manufacturer's code (two digits) using button 1 — 9, and 0.**
   Please refer to the following table to find the code.

For CATV converters

Manufacturer	Code
GI JERROLD	01, 02, 03, 04, 05, 06, 07, 08
HAMLIN/REGAL	15, 16, 17, 18
PIONEER	13, 14
SCIENTIFIC ATRANTA	09, 10
ZENITH	11, 12

For satellite tuners

Manufacturer	Code
RCA	19
SONY	20

Note: Manufacturers' codes are subject to change without notice. If they are changed, this remote control cannot operate the equipment.

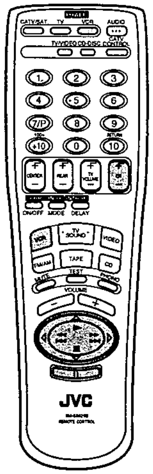
4. **Release the CATV/SAT. button in the POWER section.**
   The following buttons can be used for operating the CATV converter or satellite tuner.
   CATV/SAT.: Turns on and off CATV converter or satellite tuner.
   After pressing the CATV CONTROL button, you can perform the following operations on the CATV converter or satellite tuner.
   CH +/–: Changes the channels on the CATV converter.
   1 — 10, 0, +10: Select the channels.
   +10 button will function as the ENTER button if your CATV converter or satellite tuner requires pressing the ENTER button after selecting a channel number.

   Note:
   Refer also to the manual supplied with your CATV converter or satellite tuner.

5. **Try to operate your CATV converter or satellite tuner by pressing the CATV/SAT. button in the POWER section.**
   When it turns on or off, you have entered the correct code.

6. **Try each one until the correct one is entered since there are more than one code listed for your brand of CATV converter.**

To change the transmittable signals for operating another manufacturer's VCR



1. **Press and hold the VCR button in the POWER section.**
2. **Press the VCR button (of the source selecting buttons).**
3. **Enter the manufacturer's code (two digits) using button 1 — 9, and 0.**
   Refer to the following table to find the code.

Manufacturer	Code
EMERSON	11, 26
FISHER	29
FUNAI	10, 14, 15, 16
GOLD STAR	12
HITACHI	04
JVC	01, 02, 03
MITSUBISHI	13
NEC	25
PANASONIC	07, 17
PHILIPS	09
RCA	05, 06
SAMSUNG	24
SANYO	21, 22, 23
SHARP	27, 28
SHINTOM	30
SONY	18, 19, 20
ZENITH	08

Note: Manufacturers' codes are subject to change without notice. If they are changed, this remote control cannot operate the equipment.

4. **Release the VCR button in the POWER section.**
   The following buttons can be used for operating the VCR:
   VCR (in the Power section): Turns on and off VCR.
   After pressing the VCR button in the Power section or the VCR button (of the source selecting buttons), you can perform the following operations on the VCR:
   CH +/–: Changes the channels on the VCR.
   ►: Starts playback.
   ■: Stops operations.
   II: Pauses.
   ◄◄: Rewinds a tape.
   ►►: Fast winds a tape.

   Note:
   Refer also to the manual supplied with your VCR.

5. **Try to operate your VCR by pressing the VCR button in the POWER section.**
   When your VCR turns on or off, you have entered the correct code.
6. **If there are more than one code listed for your brand of VCR, try each one until the correct one is entered.**

Troubleshooting

Use this chart to help you solve daily operational problems. If there is any problem you cannot solve, contact your JVC service center.

PROBLEM	POSSIBLE CAUSE	SOLUTION
The display is not backlit	The power cord not plugged in	Plug the power cord into an AC outlet
No sound from speakers	Speaker signal cables not connected	Check speaker wiring and reconnect if necessary
	The SPEAKERS 1 and 2 buttons are not set correctly	Press the SPEAKERS 1 and 2 buttons in or out correctly
	An incorrect source is selected	Select the correct source
Sound from one speaker only	Speaker signal cables are not connected properly	Check speaker wiring and reconnect if necessary
	The BALANCE control is set to one extreme	Adjust the BALANCE control properly
Continuous hiss or buzzing during FM reception	Incoming signal is too weak	Connect an outside FM antenna or contact your dealer
	The station is too far away	Select a new station
	An incorrect antenna is used	Check with your dealer to be sure you have a correct antenna
	Antennas are not connected properly	Check connections
Occasional cracking noise during FM reception	Ignition noise from automobiles	Move the antenna farther from automobile traffic
Howling during record playing	Your turntable is too close to speakers	Move speakers away from the turntable
Remote control does not work	There is an obstruction in front of the remote sensor on the receiver	Remove the obstruction
	Batteries are weak	Replace batteries

Specifications

Amplifier

Output Power	At Stereo operation	**110 watts per channel, min. RMS, both channels driven into 8 ohms, 40 Hz to 20 kHz with no more than 0.8% total harmonic distortion.**
	At Surround operation Front channels	110 watts per channel, min. RMS, driven into 8 ohms at 1 kHz with no more than 0.8% total harmonic distortion.
	Center channel	110 watts, min. RMS, driven into 8 ohms at 1 kHz, with no more than 0.8% total harmonic distortion .
	Rear channels	110 watts min. RMS, driven into 8 ohms at 1kHz, with no more than 0.8% total harmonic distortion
Total Harmonic Distortion (8 ohms, 1 kHz)		0.8 %* at 110 watts output (* Measured by JVC Audio Analysis System)
Frequency Response (8 ohms)	PHONO CD,TAPE,VCR,VIDEO, TV SOUND	20 Hz to 20 kHz (±1 dB) 20 Hz to 20 kHz (±1 dB)
Audio Input Sensitivity/ Impedance (1 kHz)	PHONO CD,TAPE,VCR,VIDEO, TV SOUND	3.3 mV/47 k ohms 240 mV/47 k ohms
Audio Output Level	TAPE,VCR	240 mV
Signal-to-Noise Ratio ('66 IHF/'78 IHF)	PHONO CD,TAPE,VCR,VIDEO, TV SOUND	70 dB/78 dB (at REC OUT) 87 dB/80 dB
RIAA Phono Equalization		±0.5 dB (20 Hz to 20 kHz)
LOUDNESS control (Volume Control at –40 dB)		+5 ±2 dB at 100 Hz
Tone Control Range	BASS TREBLE	+8 ±2 dB, –8 ±2 dB (at 100 Hz) +8 ±2 dB, –8 ±2 dB (at 10 kHz)
Video Input Sensitivity/ Impedance	VCR, VIDEO	1 Vp-p/75 ohms
Video Output Level	VCR, MONITOR OUT	1 Vp-p (at 1 Vp-p input)
Synchronization		negative
Signal-to-Noise Ratio		45 dB

FM tuner (IHF)

Tuning Range		87.5 MHz to 108.0 MHz
Usable Sensitivity		10.8 dBf (0.95 μV/75 ohms)
50 dB Quieting Sensitivity	Monaural Stereo	16.3 dBf (1.8 μV/75 ohms) 38.3 dBf (22.5 μV/75 ohms)
Signal-to-Noise Ratio (IHF-A weighted)	Monaural Stereo	80 dB at 85 dBf 73 dB at 85 dBf
Total Harmonic Distortion	Monaural Stereo	0.15 % at 1 kHz 0.2 % at 1 kHz
Stereo Separation at REC OUT		40 dB at 1 kHz
Capture Ratio		1.5 dB (10 mV)
Alternate Channel Selectivity		60 dB: (±400 kHz)
Frequency Response		30 Hz to 15 kHz: (+0.5 dB, –3 dB)

AM tuner

Tuning Range		530 kHz to 1,710 kHz
Usable Sensitivity	Loop antenna External antenna	300 μV/m 30 μV
Signal-to-Noise Ratio		50 dB (100 mV/m)

General

Power Requirements	AC 120V , 60 Hz
Power Consumption	300 watts/400 VA 5 watts (in standby mode)
Dimensions (W x H x D)	17 $^{3}/_{16}$ x 5 $^{13}/_{16}$ x 13 $^{5}/_{8}$ inches (435 x 147 x 346 mm)
Mass	17.7 lbs (8.0 kg)

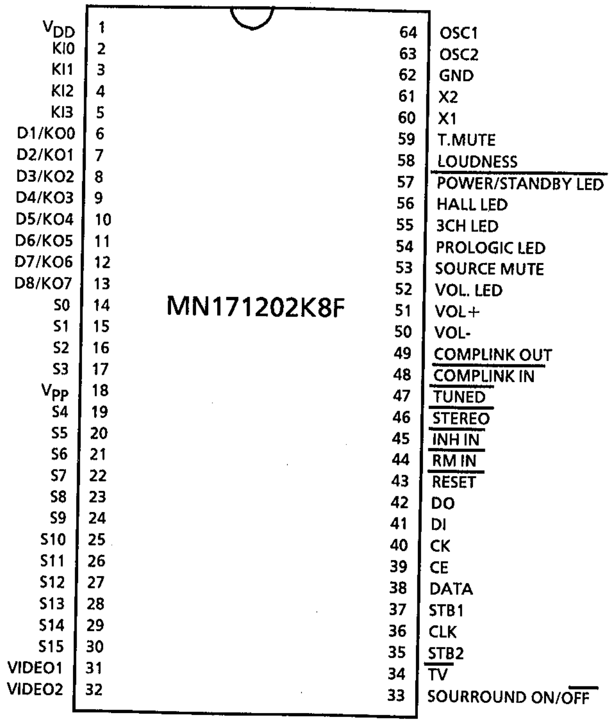
Design & specifications are subject to change without notice

–MEMO–

Description of Major LSIs

■ MN171202K8F (IC401) : SYSTEM CONTROLLER

1. Terminal Layout


MN171202K8F
VDD 1
KI0 2
KI1 3
KI2 4
KI3 5
D1/KO0 6
D2/KO1 7
D3/KO2 8
D4/KO3 9
D5/KO4 10
D6/KO5 11
D7/KO6 12
D8/KO7 13
S0 14
S1 15
S2 16
S3 17
VPP 18
S4 19
S5 20
S6 21
S7 22
S8 23
S9 24
S10 25
S11 26
S12 27
S13 28
S14 29
S15 30
VIDEO1 31
VIDEO2 32
64 OSC1
63 OSC2
62 GND
61 X2
60 X1
59 T.MUTE
58 LOUDNESS
57 POWER/STANDBY LED
56 HALL LED
55 3CH LED
54 PROLOGIC LED
53 SOURCE MUTE
52 VOL. LED
51 VOL+
50 VOL-
49 COMPLINK OUT
48 COMPLINK IN
47 TUNED
46 STEREO
45 INH IN
44 RM IN
43 RESET
42 DO
41 DI
40 CK
39 CE
38 DATA
37 STB1
36 CLK
35 STB2
34 TV
33 SOURROUND ON/OFF

2.Key Matrix

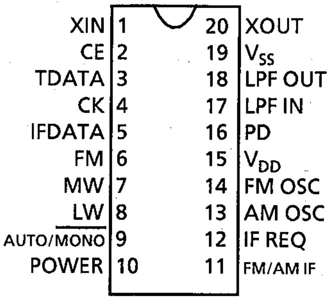
	KI0 (PIN2)	KI1 (PIN3)	KI2 (PIN4)	KI3 (PIN5)
KO0 (PIN6)	PHONO (S401)	CD (S402)	TUNER (S405)	TAPE (S406)
KO1 (PIN7)	VIDEO (S403)	VCR (S404)	TV (S407)	LOUDNESS (S408)
KO2 (PIN8)	BAND FM/AM (S409)	FM MODE /MUTE (S410)	FREQ. DOWN (S411)	FREQ. UP (S412)
KO3 (PIN9)	POWER (S413)	MEMORY (S414)	PRESET /DOWN (S415)	PRESET /UP (S416)
KO4 (PIN10)	SURR. (S417)	SURR. MODE (S418)	REAR LEVEL- (S419)	REAR LEVEL+ (S420)
KO5 (PIN11)	DELAY (S421)	CENTER MODE (S422)	CENTER LEVEL- (S423)	CENTER LEVEL+ (S424)

3. Description

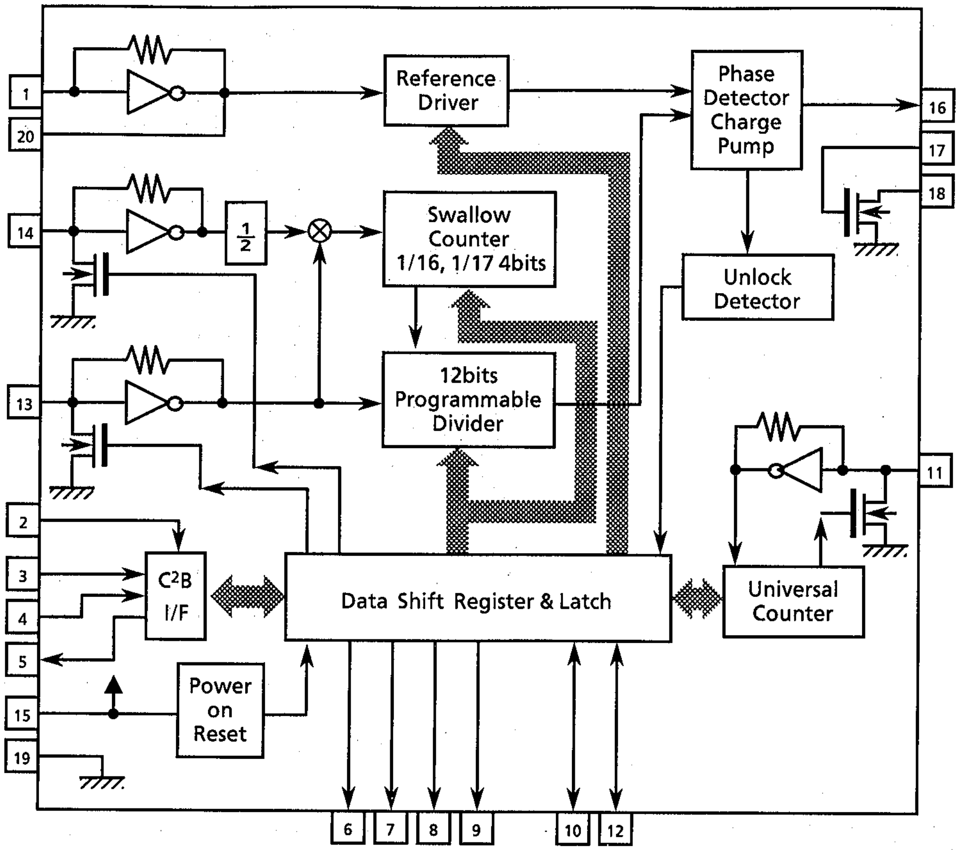
Pin No.	Symbol	I/O	Description
1	V_{DD}	--	Power supply
2	KI0	I	Key matrix Input
3	KI1	I	Key matrix Input
4	KI2	I	Key matrix Input
5	KI3	I	Key matrix Input
6	D1/KO0	O	Grid control signal/Key matrix output
7	D2/KO1	O	Grid control signal/Key matrix output
8	D3/KO2	O	Grid control signal/Key matrix output
9	D4/KO3	O	Grid control signal/Key matrix output
10	D5/KO4	O	Grid control signal/Key matrix output
11	D6/KO5	O	Grid control signal/Key matrix output
12	D7/KO6	O	Grid control signal/Key matrix output
13	D8/KO7	O	Grid control signal/Key matrix output
14	S0	O	Segment control signal
15	S1	O	Segment control signal
16	S2	O	Segment control signal
17	S3	O	Segment control signal
18	V_{PP}	O	Power supply
19	S4	O	Segment control signal
20	S5	O	Segment control signal
21	S6	O	Segment control signal
22	S7	O	Segment control signal
23	S8	O	Segment control signal
24	S9	O	Segment control signal
25	S10	O	Segment control signal
26	S11	O	Segment control signal
27	S12	O	Segment control signal
28	S13	O	Segment control signal
29	S14	O	Segment control signal
30	S15	O	Segment control signal
31	VIDEO1	O	Control signal to IC661
32	VIDEO2	O	Control signal to IC661
33	SURR.ON/OFF	O	SURROUND ON/OFF control
34	TV	O	TV sound select control signal
35	STB2	O	Strobe signal to IC641,601
36	CLK	O	Clock output
37	STB1	O	Strobe signal to IC321
38	DATA	O	Data output
39	CE	O	Chip enable output
40	CK	O	CLOCK signal output
41	DI	I	Tuner data input
42	DO	O	Tuner data output
43	RESET	O	RESET signal input
44	RM IN	I	Remote signal input
45	INH IN	I	Inhibit signal input
46	STEREO	I	STEREO signal input
47	TUNED	I	TUNED signal input
48	COMPULINK IN	I	COMPULINK signal input
49	COMPULINKOUT	O	COMPLUINK signal output
50	VOL-	O	VOL. control signal
51	VOL+	O	VOL. control signal
52	VOL LED	O	VOL. indication control
53	SOURCE MUET	O	SOURCE MUET control signal
54	PROLOGIC LED	O	PROLOGIC indication control
55	3CH LED	O	3CH indication control
56	HALL LED	O	HALL indication control
57	P/STANDBY LED	O	STANDBY indication control
58	LOUDNESS	O	LOUDNESS control signal
59	T.MUTE	O	TUNER MUET control signal
60	X1	--	GND
61	X2	--	Not used
62	VSS	--	GND
63	OSC2	--	Oscillation terminal
64	OSC1	--	Oscillation terminal

■ LC72131 (IC121) : PLL Synthesizer

1. Terminal Layout


XIN 1
CE 2
TDATA 3
CK 4
IFDATA 5
FM 6
MW 7
LW 8
AUTO/MONO 9
POWER 10
20 XOUT
19 V$_{SS}$
18 LPF OUT
17 LPF IN
16 PD
15 V$_{DD}$
14 FM OSC
13 AM OSC
12 IF REQ
11 FM/AM IF

2. Block Diagram


Reference Driver
Phase Detector Charge Pump
Swallow Counter 1/16, 1/17 4bits
1/2
12bits Programmable Divider
Unlock Detector
C²B I/F
Data Shift Register & Latch
Universal Counter
Power on Reset
1
20
14
13
2
3
4
5
15
19
16
17
18
11
6
7
8
9
10
12

3. Pin Functions

Pin No.	Symbol	I/O	Functions	Pin No.	Symbol	I/O	Functions
1	X in	I	Crystal oscillator (7.2MHz).	11	FM/AM IF	I	Universal counter input
2	CE	I	Fix the chip enable to "H" when inputting (DI) and outputting (DO) the serial data.	12	IF REQ	O	Output the "IF-signal request" to IC102
3	TDATA	I	Receive the control data from the controller (IC201).	13	AM IN	I	Input the local oscillator signal of AM.
4	CK	I	This clock is used to synchronize data when transmitting the data of DI and DO.	14	FM IN	I	Input the local oscillator signal of FM.
5	IFDATA	O	Transmit the data from LC72131M to the controller which is synchronized with CK.	15	V$_{DD}$	–	This is a terminal of power supply.
6	FM	O	It is "L" on FM mode.	16	PD	O	PLL charge pump output : When the local oscillator signal frequency is higher than the reference frequency high level signals will output. When it is lower than the reference frequency, low level signals will output. When it is same as reference frequency signals, it will be floating.
7	MW	O	It is "L" on MW mode.	17	LPF IN	I	Transistor used for the PLL active low-pass filterr
8	LW	O	It is "L" on LW mode.	18	LPF OUT	O	Transistor used for the PLL active low-pass filterr
9	AUTO/ $\overline{\text{MONO}}$	O	It is "L" on monaural, "H" on auto.	19	V$_{SS}$	–	Connected to GND
10	POWER	O	Regulator control singal P ON "H", STANDBY "L"	20	X out	O	Crystal oscillator (7.2MHz).

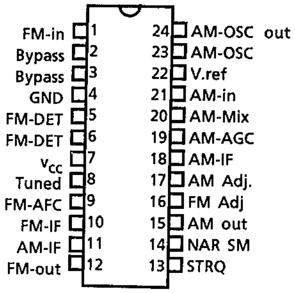
■ LA1266A (IC104) : FM AM IF AMP & detector

1. The main function descriptions

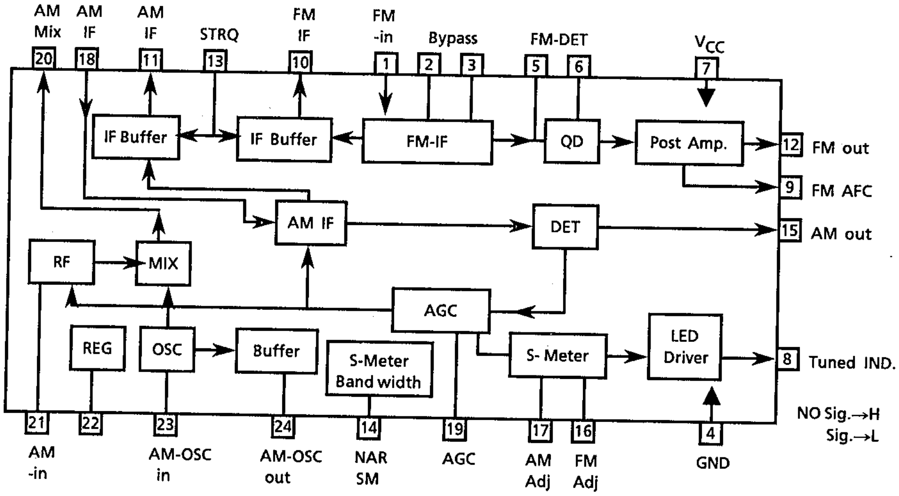
(1) Amplify and detect of FM intermodulation frequencies.

(2) It has local oscillator and mixer for AM, and amplify the AM-IF signal.

2. Top View


FM-in 1
Bypass 2
Bypass 3
GND 4
FM-DET 5
FM-DET 6
Vcc 7
Tuned 8
FM-AFC 9
FM-IF 10
AM-IF 11
FM-out 12
24 AM-OSC out
23 AM-OSC
22 V.ref
21 AM-in
20 AM-Mix
19 AM-AGC
18 AM-IF
17 AM Adj.
16 FM Adj
15 AM out
14 NAR SM
13 STRQ

3. Block Diagram


AM Mix 20
AM IF 18
AM IF 11
STRQ 13
FM IF 10
FM -in 1
Bypass 2 3
FM-DET 5 6
Vcc 7
IF Buffer
IF Buffer
FM-IF
QD
Post Amp.
12 FM out
9 FM AFC
AM IF
DET
15 AM out
RF
MIX
AGC
REG
OSC
Buffer
S-Meter Band width
S- Meter
LED Driver
8 Tuned IND.
NO Sig.→H
Sig.→L
21 AM -in
22
23 AM-OSC in
24 AM-OSC out
14 NAR SM
19 AGC
17 AM Adj
16 FM Adj
4 GND

4. Pin Function Description

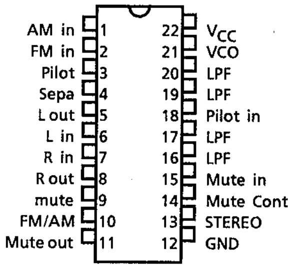
Pin No.	Symbol	I/O	Functions and Operations
1	FM in	I	This is an input terminal of FM IF Signal.
2, 3	Bypass	--	Bypass of FM IF Amp.
4	GND	--	This is the device ground terminal.
5, 6	FM DET	--	FM detect transformer.
7	V_{CC}	--	This is the power supply terminal.
8	Tuned	O	When the set is tuning, this terminal become "L".
9	FM AFC	O	This is an output terminal of voltage for FM - AFC.
10	FM IF out	O	When the IF REQ signal of IC251(LC7218) applies to pin13, the signal of FM IF outputs.
11	AM IF out	O	When the IF REQ signal of IC251(LC7218) applies to pin13, the signal of AM IF outputs.
12	FM out	O	FM detection output.
13	STRQ	I	The IF-signals come out from pin10 (FM-IF) or pin11 (AM-IF) while this terminal goes to "High".
14	NAR SM	--	Control the Band-width of AM signal meter.
15	AM out	O	AM detection output.
16	FM Adj	--	For adjust the stop level (or mute level) of FM.
17	AM Adj	--	For adjust the stop level (or mute level) of AM.
18	AM-IF	I	Input of AM IF Signal.
19	AM-AGC	I	This is an AGC voltage Input terminal for AM.
20	AM-MIX	O	This is an output terminal for AM mixer.
21	AM-IN	I	This is an input terminal for AM RF Signal.
22	$V_{\cdot REF}$	--	Control the Band-width of FM signal meter.
23	AM-OSC	--	This is a terminal of AM Local oscillation circuit.
24	AM-OSC out	O	AM Local Oscillation Signal output.

■ LA3401 (IC105) : FM MPX Detector

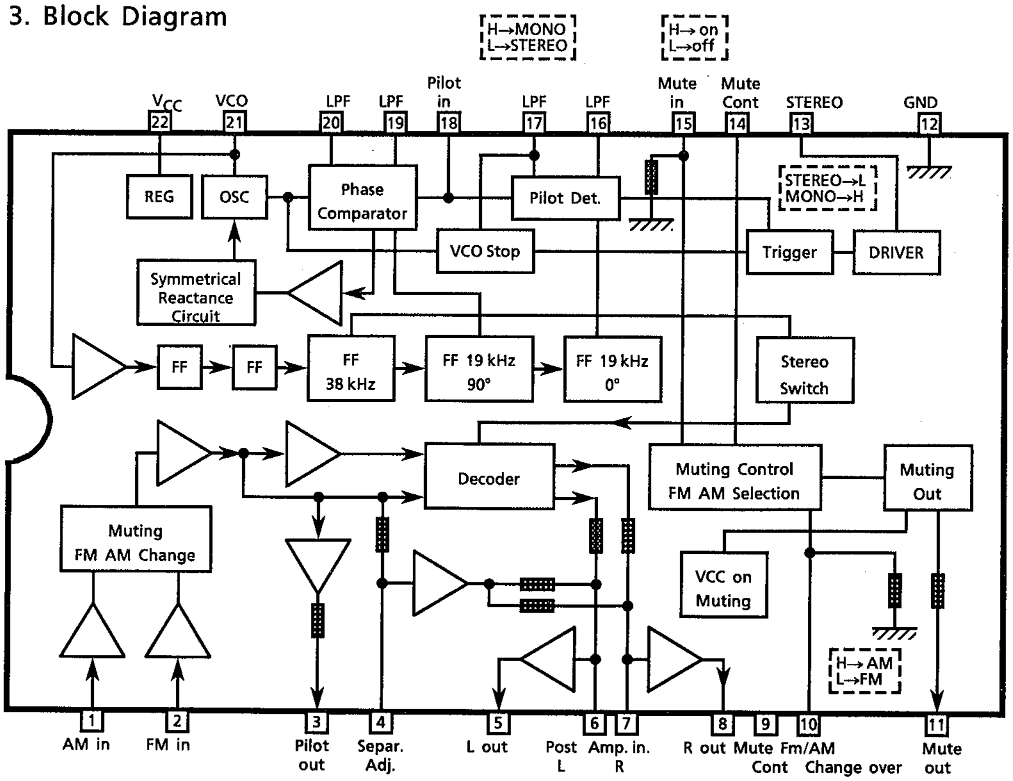
1. The main function descriptions

(1) Detect the FM Multiplex Signal (Stereo signal).
(2) When receiving FM Stereo Signal, it outputs the signal for indicator.
(3) AM / FM Audio Amplifier.

2. Terminal Layout


AM in 1
FM in 2
Pilot 3
Sepa 4
L out 5
L in 6
R in 7
R out 8
mute 9
FM/AM 10
Mute out 11
22 V_{CC}
21 VCO
20 LPF
19 LPF
18 Pilot in
17 LPF
16 LPF
15 Mute in
14 Mute Cont
13 STEREO
12 GND

3. Block Diagram

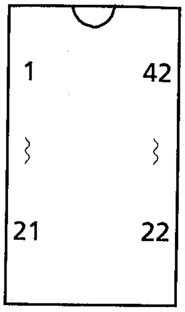

H→MONO
L→STEREO
H→on
L→off
V_{CC} 22
VCO 21
LPF 20
LPF 19
Pilot in 18
LPF 17
LPF 16
Mute in 15
Mute Cont 14
STEREO 13
GND 12
REG
OSC
Phase Comparator
Pilot Det.
STEREO→L
MONO→H
VCO Stop
Trigger
DRIVER
Symmetrical Reactance Circuit
FF
FF
FF 38 kHz
FF 19 kHz 90°
FF 19 kHz 0°
Stereo Switch
Decoder
Muting Control FM AM Selection
Muting Out
Muting FM AM Change
VCC on Muting
H→AM
L→FM
1 AM in
2 FM in
3 Pilot out
4 Separ. Adj.
5 L out
6 Post L
7 Amp. in. R
8 R out
9 Mute Cont
10 Fm/AM Change over
11 Mute out

4. Pin Function Description

Pin No.	Symbol	I/O	Functions and Operations
1	AM in	I	This is an input terminal for AM detection signal.
2	FM in	I	This is an input terminal for FM detection signal.
3	Pilot out	O	Output of MPX pilot signal (Connect to Pin18).
4	Sepa. Adj.	--	Separation adjustment.
5	L. out	O	Left channel signal output.
6	L	O	Reversal output of Pin5.
7	R	O	Reversal output of Pin8.
8	R out	O	Right channel signal output
9	Mute Cont	--	The mute time is controlled by the connected capacitor when turning the power switch on.
10	FM / AM	I	Change over the FM / AM input. "H" : AM, "L" : FM
11	Mute out	--	Not use
12	GND	--	Ground terminal.
13	Stereo	O	Stereo indicator output. Stereo : "L", Mono : "H"
14	Mute Cont	--	The mute time is controlled by the connected capacitor when changing over the FM / AM .
15	Mute in	I	MutE signal input."H" : Mute on, "L" : Mute off.
16	LPF	--	Low pass filter of pilot detector.
17	LPF	--	While this terminal goes to "H", the VCO stop.
18	Pilot in	I	Pilot input.
19	LPF	--	Low-pass filter of PLL.
20	LPF	--	Low-pass filter of PLL.
21	VCO	I	Voltage controlled oscillator terminal.
22	V_{CC}	--	Power supply.

■ LA2785 (IC601) : Dolby Pro Logic Surround Signal Processor

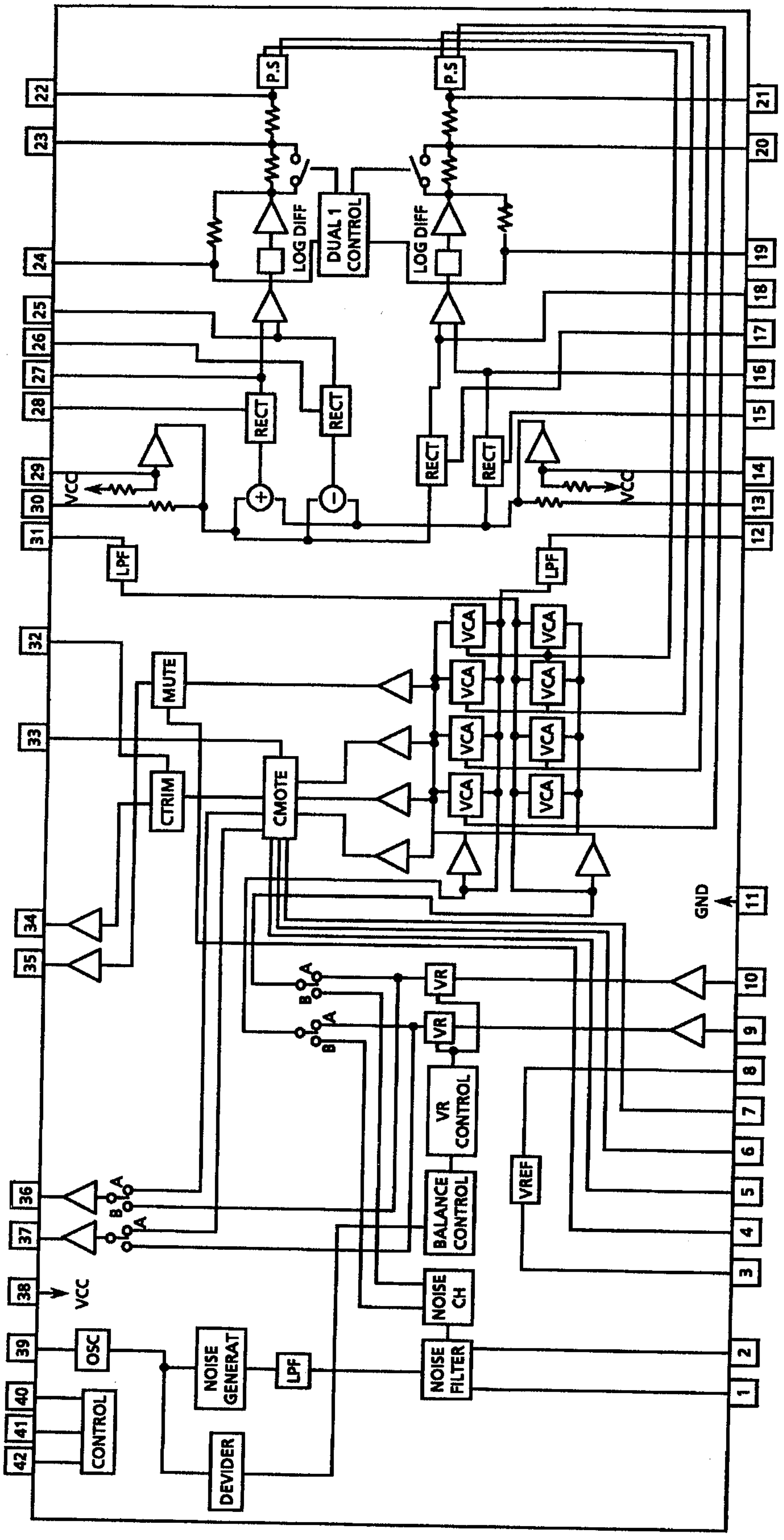
1. Terminal Layout



2. Pin Functions

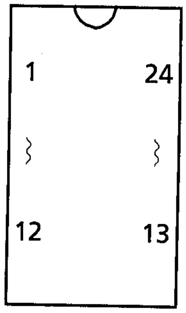
Pin No	Symbol	I/O	Functions	Pin No	Symbol	I/O	Functions
1	NS-BPF1	--	Capacitor for spectrum filter in noise sequencer	22	VCS-1	--	Capacitor for time constant (in log differential area)
2	NS-BPF2	--	Capacitor for spectrum filter in noise sequencer	23	VCS-2	--	Capacitor for time constant (in log differential area)
3	V_{REF}	--	Analog reference voltage	24	VCS-TH	--	Capacitor for time constant (in log differential area)
4	S-DC-OUT	--	Capacitor for DC-cut Sch	25	L+R RECT	--	Capacitor for Center channel detection
5	C-DC-OUT	--	Capacitor for DC-cut Cch	26	DC-CUT	--	Capacitor for DC-cut at detection circuit
6	L-DC-OUT	--	Capacitor for DC-cut Lch	27	L−R RECT	--	Capacitor for Surround channel detection
7	R-DC-OUT	--	Capacitor for DC-cut Rch	28	DC-CUT	--	Capacitor for DC-cut at detection circuit
8	V_{REF} BUFFER	--	V_{REF} low impedance	29	R-BPF3	--	LPF,HPF for Right channel control circuit
9	L-IN	I	Left channel signal input	30	R-BPF2	--	LPF,HPF for Right channel control circuit
10	R-IN	I	Right channel signal input	31	R-BPF1	--	LPF,HPF for Right channel control circuit
11	GND	--	Ground	32	C-TRIM DC-CUT	--	Capacitor for DC-cut Center channel
12	L-BPF1	--	LPF,HPF for Lch control circuit	33	C-MODE-CAP	--	Capacitor for Center channel output low-pass filter
13	L-BPF2	--	LPF,HPF Left channel control circuit	34	C-OUT	O	Center signal output
14	L-BPF3	--	LPF,HPF Left channel control circuit	35	S-OUT	O	Surround signal output
15	DC-CUT	--	Capacitor for DC-cut at detection circuit	36	R-OUT	O	Right channel signal output
16	R RECT	--	Capacitor for Right channel detection	37	L-OUT	O	Left channel signal output
17	DC-CUT	--	Capacitor for DC-cut at detection circuit	38	VCC	--	power supply
18	L RECT	--	Capacitor for Left channel detection	39	OSC	--	Oscillation for noise sequencer and auto balance
19	VLR-TH	--	Capacitor for time constant (in log differential area)	40	STB	I	Strobe signal input
20	VLR-2	--	Capacitor for time constant (in log differential area)	41	DATA	I	Serial interface data input
21	VLR-1	--	Capacitor for time constant (in log differential area)	42	CLK	I	Serial interface clock

3. Block Diagram

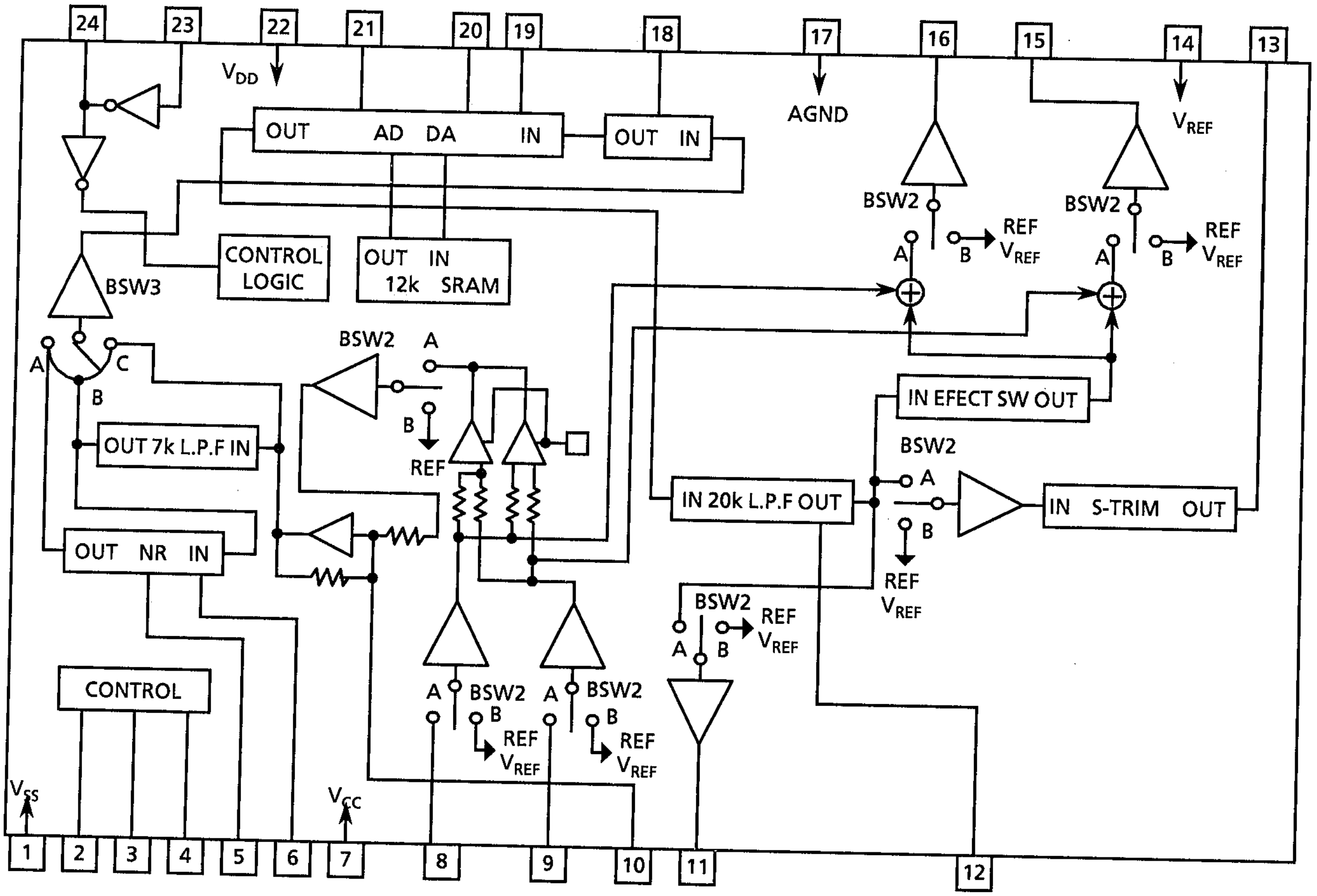

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
P.S
P.S
LOG DIFF
LOG DIFF
DUAL 1 CONTROL
RECT
RECT
RECT
RECT
+
−
VCC
VCC
VCC
GND
LPF
LPF
VCA
MUTE
CTRIM
CMOTE
VR
VR
A
B
VR CONTROL
BALANCE CONTROL
VREF
NOISE CH
NOISE FILTER
NOISE GENERAT
LPF
OSC
CONTROL
DEVIDER

■ LV1011 (IC641) : Dolby Surround Passive Decoder

1. Terminal Layout



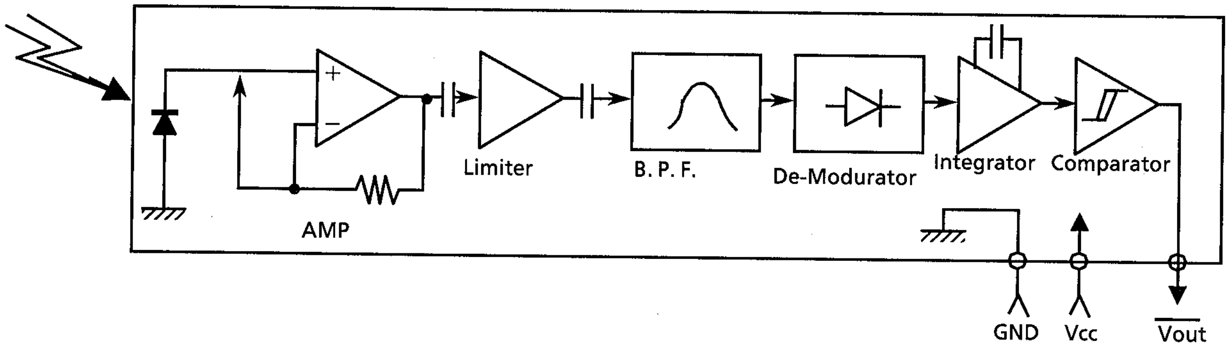
2. Block Diagram


24
23
22
21
20
19
18
17
16
15
14
13
VDD
AGND
VREF
OUT AD DA IN
OUT IN
CONTROL LOGIC
OUT IN 12k SRAM
BSW3
A B C
BSW2
A
B
REF
OUT 7k L.P.F IN
OUT NR IN
CONTROL
IN 20k L.P.F OUT
IN EFECT SW OUT
IN S-TRIM OUT
REF VREF
VSS
VCC
1
2
3
4
5
6
7
8
9
10
11
12

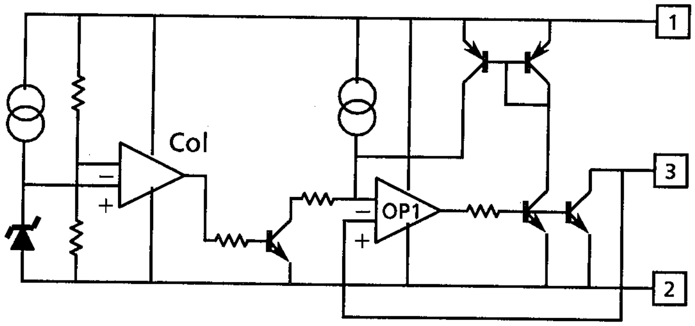
3. Pin Functions

Pin No.	Symbol	I/O	Functions
1	DGND	--	Digital GND
2	CLK	I	Serial interface clock
3	DATA	I	Serial interface data input
4	STB	I	Strobe signal input
5	NR-DET	--	Capacitor for noise reduction detection
6	NR-IREF	--	Resistor for noise reduction reference current
7	V_{CC}	--	Supply
8	L-IN	I	Left channel signal input
9	R-IN	I	Right channel signal input
10	S-IN	I	Surround signal input
11	DELAY-OUT	--	Not used
12	DC-CUT	--	Capacitor for DC-cut
13	S-OUT	O	Surround signal output
14	V_{REF}	--	Analog reference voltage
15	R-MIX-OUT	--	Not used
16	L-MIX-OUT	--	Not used
17	AGND	--	Analog ground
18	DC-CUT	--	Capacitor for DC-cut
19	D/A	--	Capacitor for integrator
20	NOISE SHAPER	--	Capacitor for noise shaper
21	A/D	--	Capacitor for integrator
22	V_{DD}	--	Supply for the digital section
23	OSC	--	Oscillation terminal
24	OSC	--	Oscillation terminal

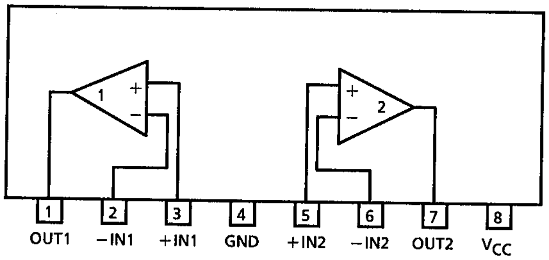
■SPS-420-1 (IC402) : Remocon Module IC


AMP
Limiter
B. P. F.
De-Modurator
Integrator
Comparator
GND
Vcc
Vout

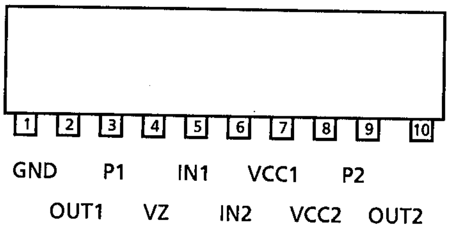
■ PST600E (IC403) : Reset IC



■ BA15218N (IC341,IC361) : Dual OP Amp.


1
2
1 OUT1
2 −IN1
3 +IN1
4 GND
5 +IN2
6 −IN2
7 OUT2
8 V_{CC}

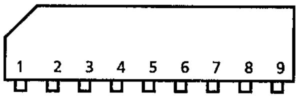
■ LB1641 (IC501) : DC Motor Driver


1 GND
2 OUT1
3 P1
4 VZ
5 IN1
6 IN2
7 VCC1
8 VCC2
9 P2
10 OUT2

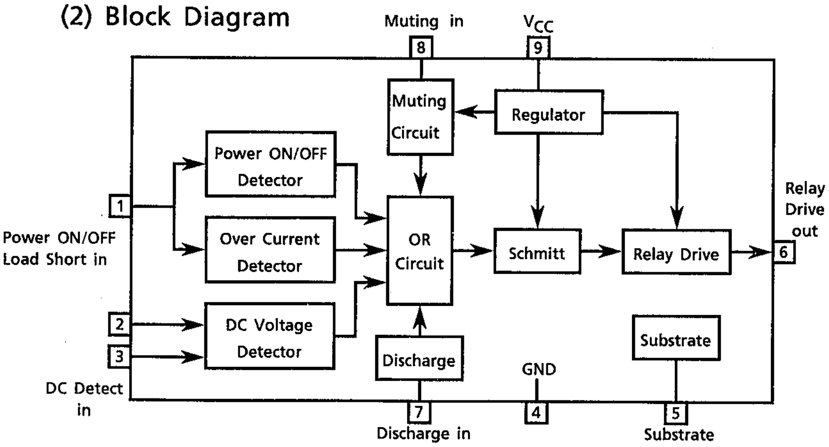
Input		Output		Mode
IN1	IN2	OUT1	OUT2	
0	0	0	0	Brake
1	0	1	0	CLOCKWISE
0	1	0	1	COUNTER-CLOCKWISE
1	1	0	0	Brake

■ TA7317P (IC901) : PROTECTOR

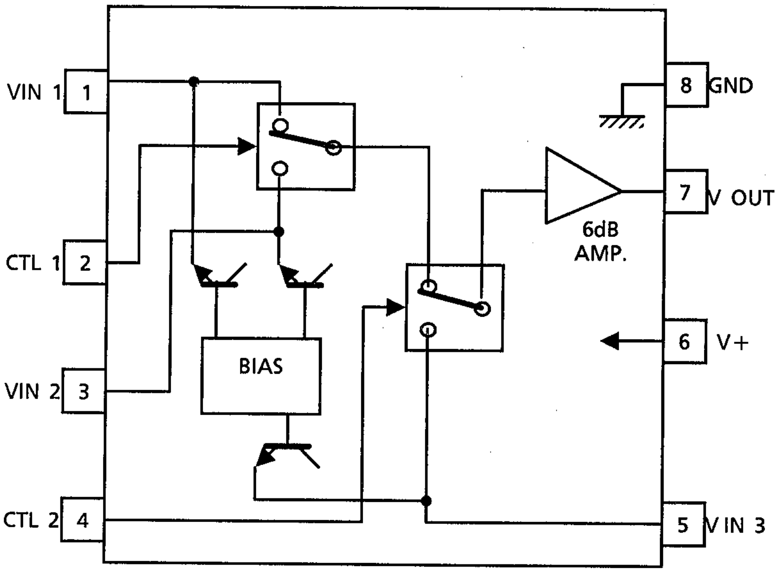
(1) Terminal Layout



(2) Block Diagram


Muting in
VCC
8
9
Muting Circuit
Regulator
Power ON/OFF Detector
1
Power ON/OFF Load Short in
Over Current Detector
OR Circuit
Schmitt
Relay Drive
Relay Drive out
6
2
3
DC Voltage Detector
DC Detect in
Discharge
Substrate
GND
7
4
5
Discharge in
Substrate

■ NJM2246D(IC661) : Video Switch

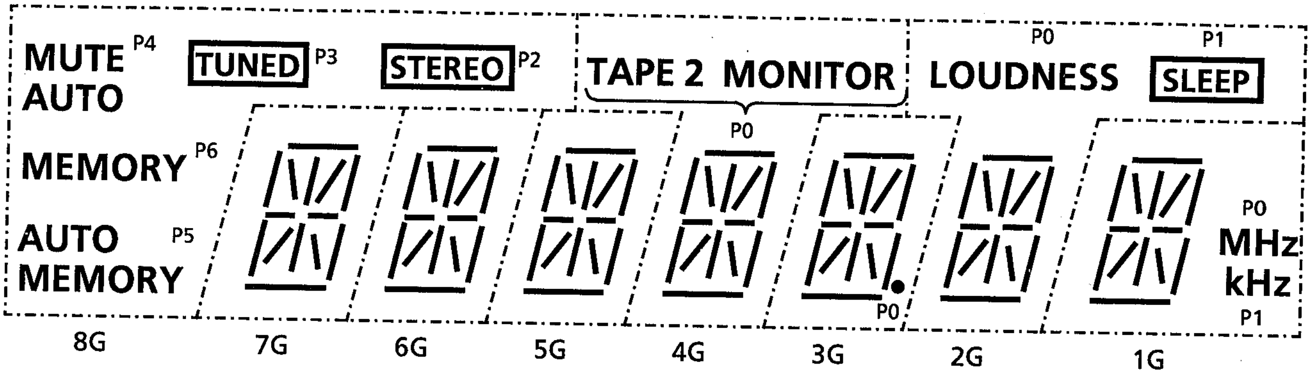

VIN 1
1
CTL 1
2
VIN 2
3
CTL 2
4
BIAS
8
GND
7
V OUT
6dB AMP.
6
V+
5
VIN 3

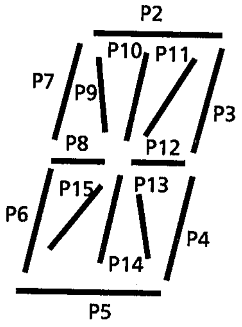
Control Signal—OutputSignal

CTL 1	CTL 2	Output
L	L	VIN 1
H	L	VIN 2
L / H	H	VIN 3

Internal Connections of the FL Display

■ELU0001-144 : DI401


MUTE
AUTO
P4
TUNED
P3
STEREO
P2
TAPE 2 MONITOR
LOUDNESS
SLEEP
P0
P1
MEMORY
P6
AUTO
MEMORY
P5
P0
P0
MHz
kHz
P0
P1
8G
7G
6G
5G
4G
3G
2G
1G


P2
P10
P11
P7
P9
P3
P8
P12
P15
P13
P6
P4
P14
P5

Pin Connection

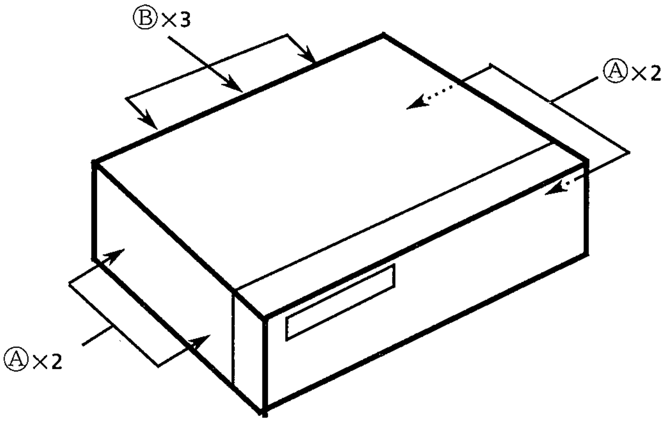
PIN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
ELECTRODE	F1	F1	F1	NP	NP	NP	NP	NP	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6		
PIN NUMBER			19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
ELECTRODE			P5	P4	P3	P2	P1	P0	8G	7G	6G	5G	4G	3G	2G	1G	NP	F2	F2	F2

Note F : Filament, G : Grid, P : Element, NP : No Pin, NC : No Connection

Disassembly Procedures

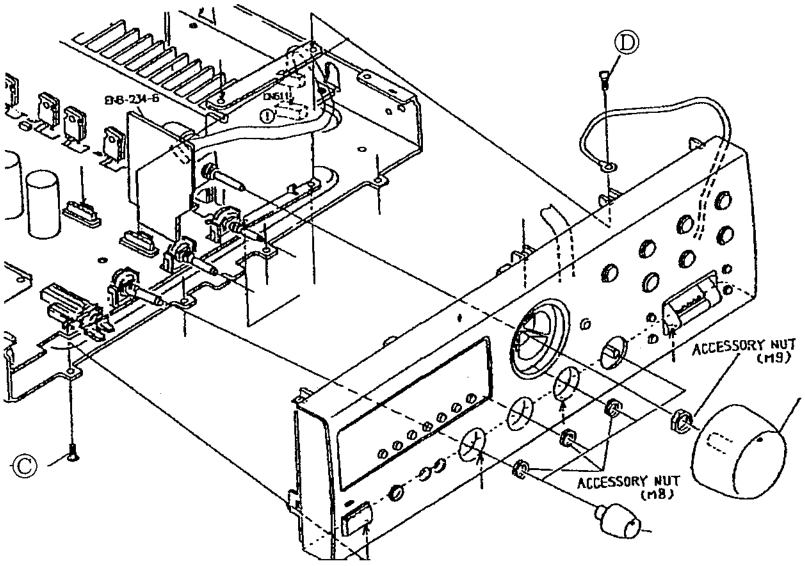
(1) Removing the top cover

1. Remove 4 screws Ⓐ fastening both sides of top cover, and 3 screws Ⓑ fastening the rear side.
2. Remove the top cover.



(2) Removing the Front panel Ass'y

1. Remove the top cover.
2. Remove the master volume knob,bass knob ,treble knob and balance knob.
3. Remove the nut fastening the master volume,bass volume,treble volume and balance volume. And remove the center tone volume knob.
4. Remove the 4 screws Ⓒ fastening bottom side of front panel ass'y.
5. Remove the 2 screws Ⓓ fastening top side of front panel ass'y.
6. Remove it.

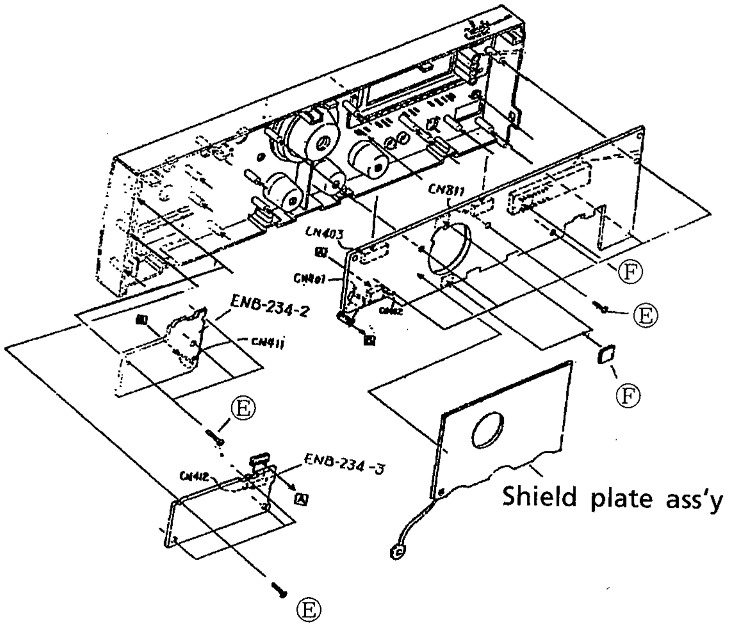


Ⓐ .. E406308-001 Ⓑ ... E73273-006 Ⓒ ... SDSF3008M Ⓓ ... SBSG3008CC

(3) Removing the Front P.C. Board

1. Removing the top cover.
2. Removing the front panel assembly.
3. Removing the shield plate ass'y.
4. Removing the 13 screws Ⓔ.
   And removing the 2 screws fixing the center tone PCB.
5. Remove it.

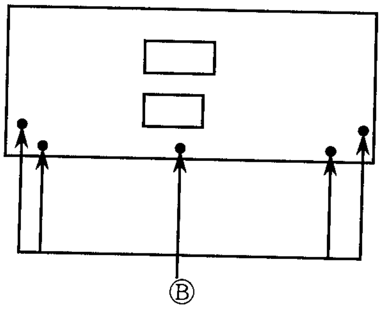
* Assembling the 3 spacer Ⓕ(E306805-122) fixing the shield plate ass'y.

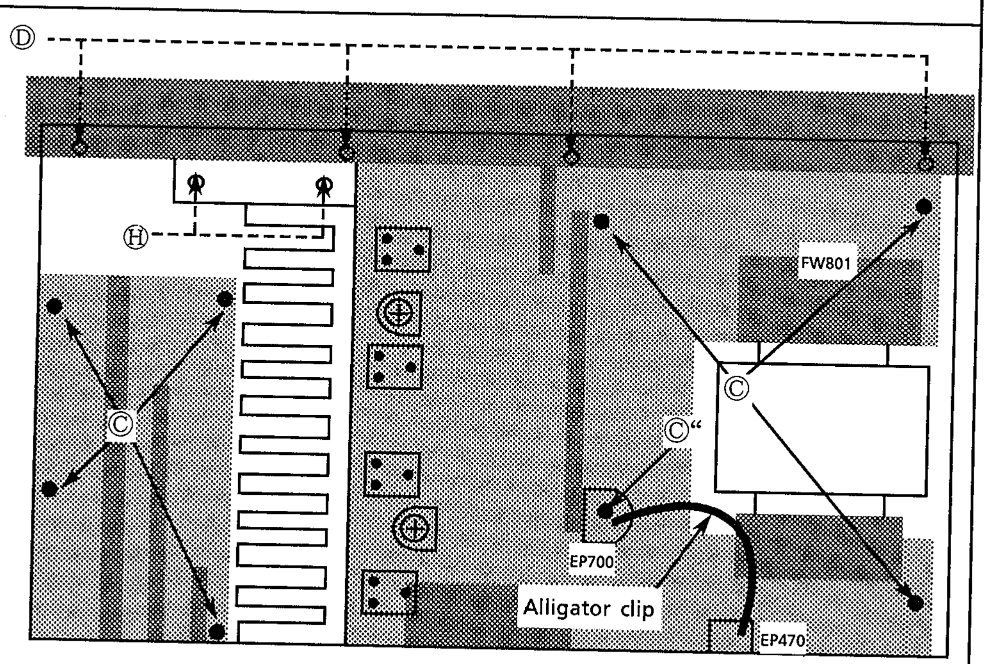

CN811
CN403
CN801
CN802
ENB-234-2
CN411
Ⓕ
Ⓔ
Ⓕ
Ⓔ
ENB-234-3
CN412
Shield plate ass'y
Ⓔ

(4) Removing the bottom cover with power trans

1. Removing the top cover.
2. Removing the 4 screws Ⓓ and the 2 screws Ⓗ fastening bottom side.
3. Removing the 5 screws Ⓑ fastening rear panel.
4. Removing the 8 screws Ⓒ and Ⓒ" fastening same P.C. bored ass'y.
5. Cut the tie band of the FW801.
6. Remove it.

* The screw Ⓒ" which secures the bottom cover is also used for ground.
It is necessary to ground before checking after the bottom cover is removed.

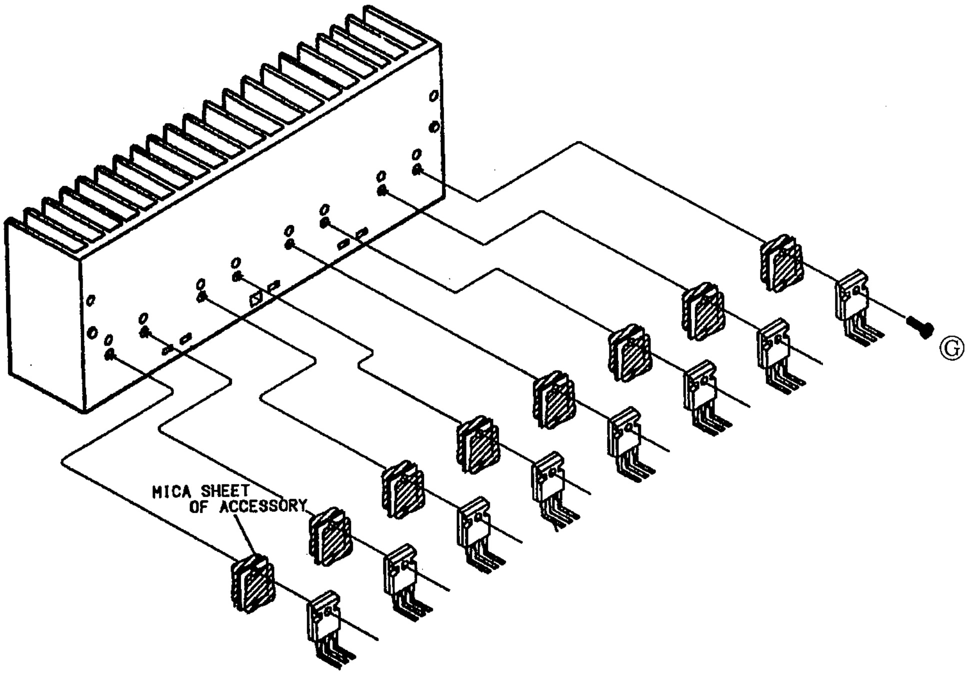



Ⓓ
Ⓗ
FW801
Ⓒ
Ⓒ
Ⓒ"
EP700
Alligator clip
EP470

Ⓑ E73273-006　ⒸⒸ"SBSG3008CC　Ⓓ SDSF3008M　ⒺSDSF2608Z　Ⓗ SDSG3008M

(5) Removing the Power Transistor

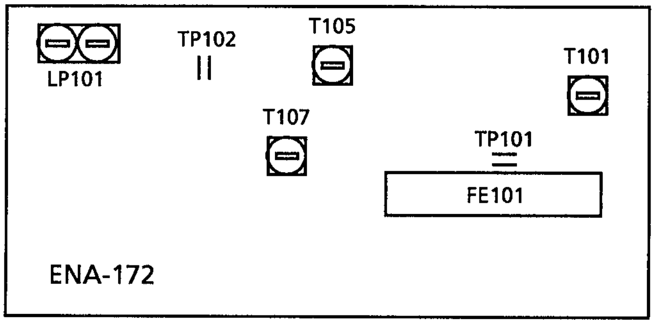
1. Remove the (1) and (4).
2. Unsolder the broken transistor.
3. Remove the some screws Ⓖ fastening it.
4. Remove it.


MICA SHEET OF ACCESSORY
Ⓖ

Ⓖ .. E73525-003

ADJUSTMENT PROCEDURES

■ Tuner section


LP101
TP102
T105
T101
T107
TP101
FE101
ENA-172

Tuning range

Area	Range	
	MW (kHz)	FM (MHz)
the U.S.A., Canada	530~1710	87.5~108

(1) Tuning Voltage

Confirm the voltages in the table at TP101.

FM Tuning voltage (Unit : V)

Area	Frequency	
	87.5MHz	108MHz
the U.S.A.,Canada,	1.6±1.0	8.0±2.0

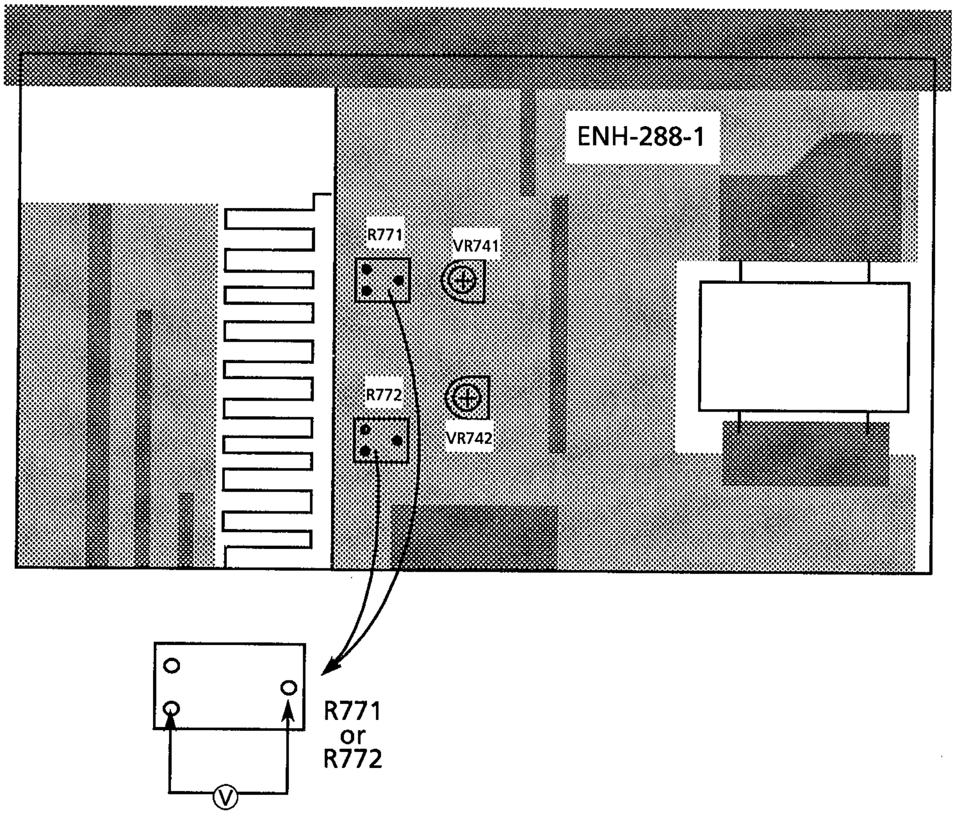
AM Tuning voltage (Unit : V)

Area	Frequency	
	530KHz	1710KHz
the U.S.A., Canada	1.0 > 0.5	8.0±0.8

(2) FM Center meter

Receive a broadcast by using the function of 'AUTO STOP'.
Adjust T105 (Detector coil) so that the voltage at TP102 becomes 0±1.5mV.

■ Power Amplifier section



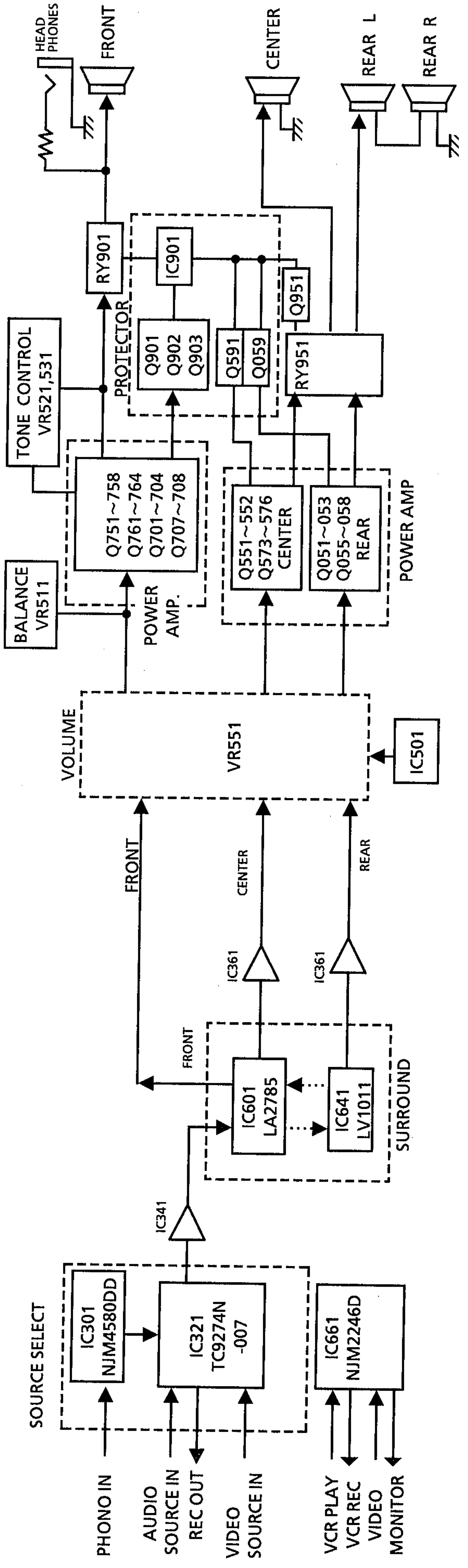
■ Idling current

(1) Set the volume control to minimum during this adjustment. And set surround mode "OFF".
(2) Turn VR741 and VR742 fully counterclockwise to warm up before adjustment.
If the heatsink is already warm from previous use the correct adjustment can not be made.
(3) Connect a DC voltmeter to R771 resistors leads for left channel, or to R772 for right channel.
(4) Adjust R771 for left channel, or R772 for right channel, so that the DC voltmeter becomes 1mV~10mV.

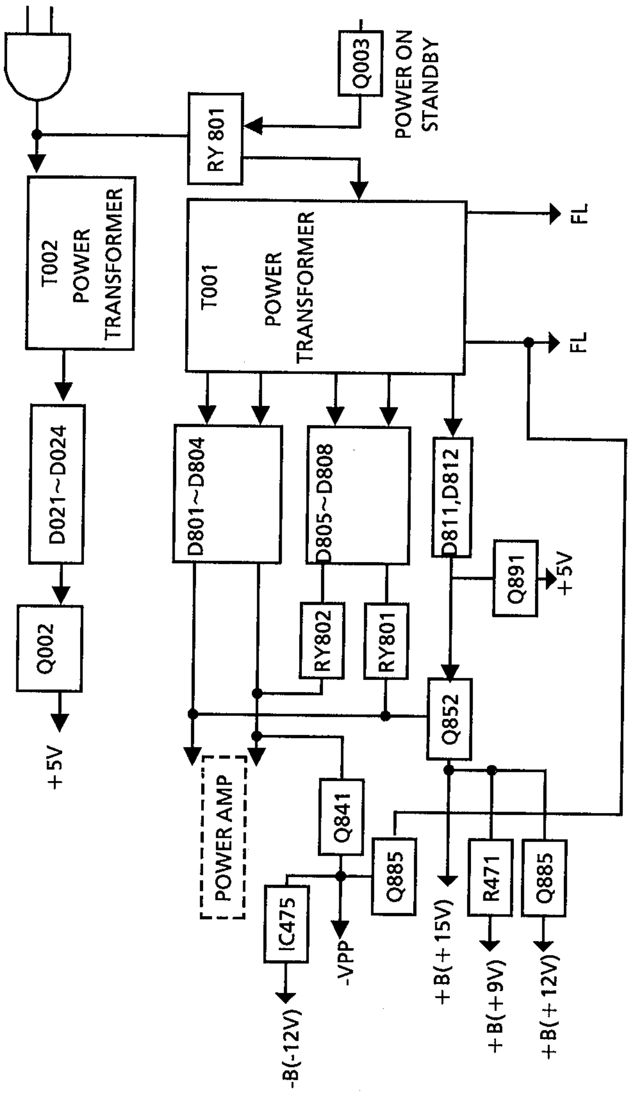
-- MEMO --

Block Diagrams

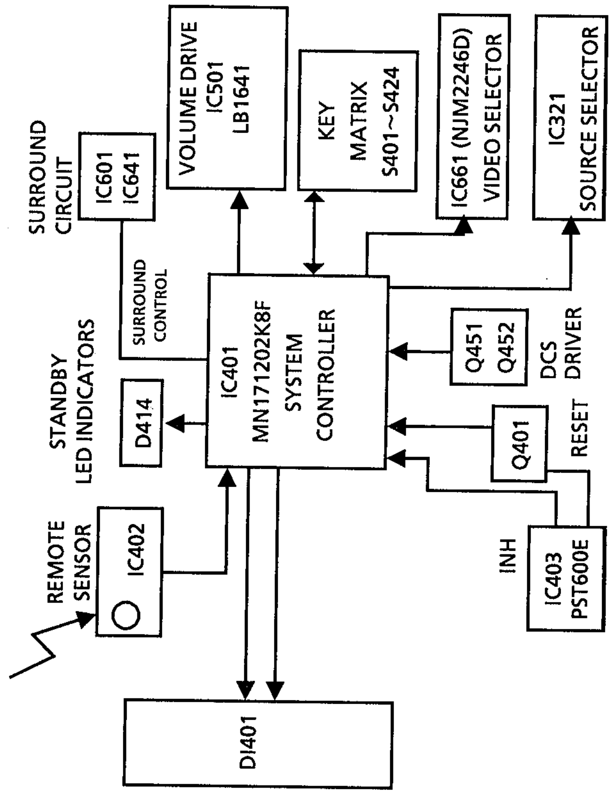
■ Signal Flow


HEAD PHONES
FRONT
CENTER
REAR L
REAR R
RY901
IC901
PROTECTOR
Q901
Q902
Q903
Q951
Q591
Q059
RY951
TONE CONTROL
VR521,531
Q751~758
Q761~764
Q701~704
Q707~708
POWER AMP.
BALANCE
VR511
Q551~552
Q573~576
CENTER
Q051~053
Q055~058
REAR
POWER AMP
VOLUME
VR551
IC501
FRONT
CENTER
REAR
IC361
IC361
FRONT
IC601
LA2785
IC641
LV1011
SURROUND
IC341
SOURCE SELECT
IC301
NJM4580DD
IC321
TC9274N
-007
IC661
NJM2246D
PHONO IN
AUDIO SOURCE IN
REC OUT
VIDEO SOURCE IN
VCR PLAY
VCR REC
VIDEO
MONITOR

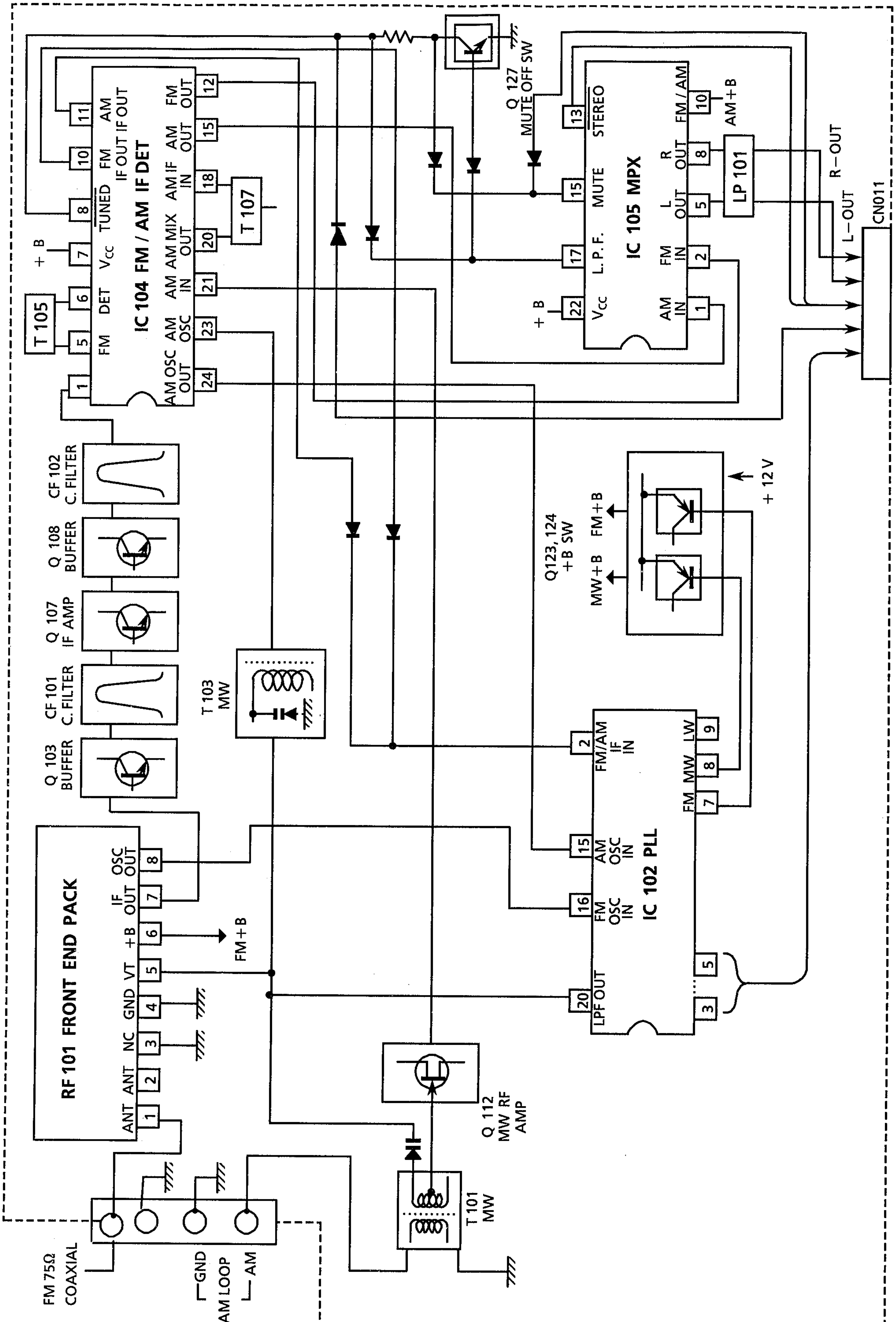
■ Power Supply Section


Q003
POWER ON
STANDBY
RY 801
T002
POWER
TRANSFORMER
T001
POWER
TRANSFORMER
FL
FL
D021~D024
Q002
+5V
D801~D804
D805~D808
D811,D812
Q891
+5V
RY802
RY801
Q852
POWER AMP
Q841
IC475
Q885
R471
Q885
-B(-12V)
-VPP
+B(+15V)
+B(+9V)
+B(+12V)

■ Control Section


SURROUND CIRCUIT
IC601
IC641
VOLUME DRIVE
IC501
LB1641
KEY
MATRIX
S401~S424
IC661 (NJM2246D)
VIDEO SELECTOR
IC321
SOURCE SELECTOR
SURROUND CONTROL
STANDBY
LED INDICATORS
D414
IC401
MN171202K8F
SYSTEM
CONTROLLER
Q451
Q452
DCS
DRIVER
Q401
RESET
INH
IC403
PST600E
REMOTE
SENSOR
IC402
DI401

■ Tuner Section

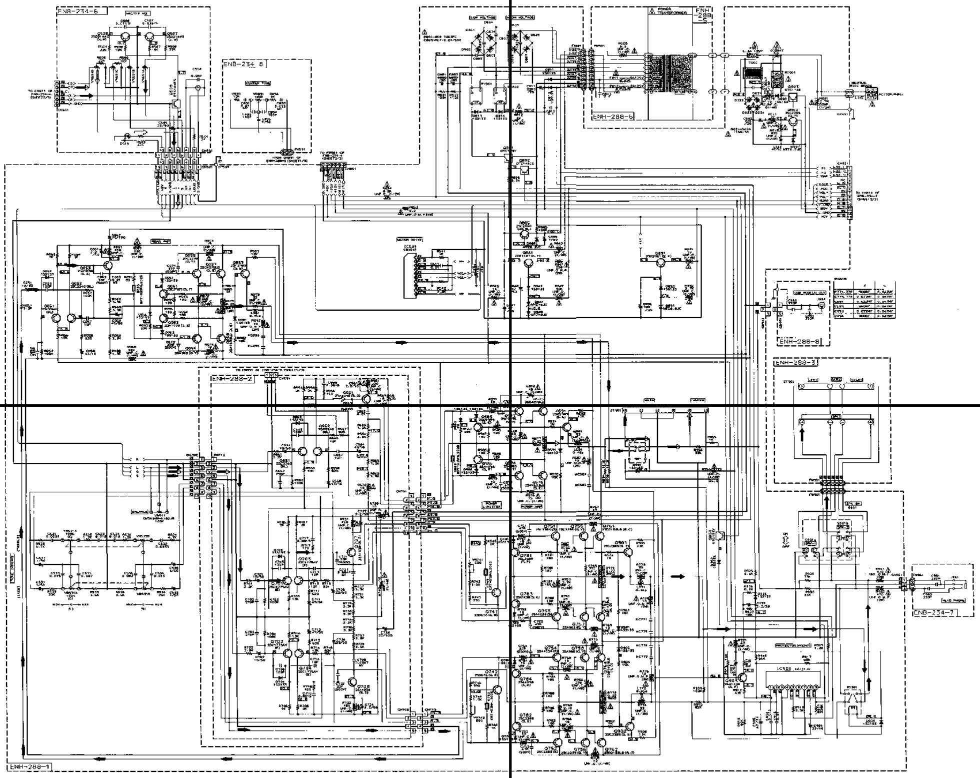

IC 104 FM / AM IF DET
FM
DET
VCC
TUNED
FM IF OUT
AM IF OUT
AM OSC OUT
AM OSC
AM IN
AM MIX OUT
AM IF IN
AM OUT
FM OUT
1
5
6
7
8
10
11
24
23
21
20
18
15
12
T 105
+ B
T 107
Q 127 MUTE OFF SW
IC 105 MPX
VCC
L. P. F.
MUTE
STEREO
AM IN
FM IN
L OUT
R OUT
FM / AM
22
17
15
13
1
2
5
8
10
+ B
AM+B
LP 101
R−OUT
L−OUT
CN011
CF 102 C. FILTER
Q 108 BUFFER
Q 107 IF AMP
CF 101 C. FILTER
Q 103 BUFFER
T 103 MW
Q123, 124 +B SW
FM+B
MW+B
+ 12 V
IC 102 PLL
FM/AM IF IN
AM OSC IN
FM OSC IN
LPF OUT
FM
MW
LW
2
15
16
20
7
8
9
5
3
RF 101 FRONT END PACK
ANT
ANT
NC
GND
VT
+B
IF OUT
OSC OUT
1
2
3
4
5
6
7
8
FM+B
Q 112 MW RF AMP
T 101 MW
FM 75Ω COAXIAL
GND
AM LOOP
AM

P2-19-b

P2-19-d

Schematic Diagrams

■ Power Amplifier Section



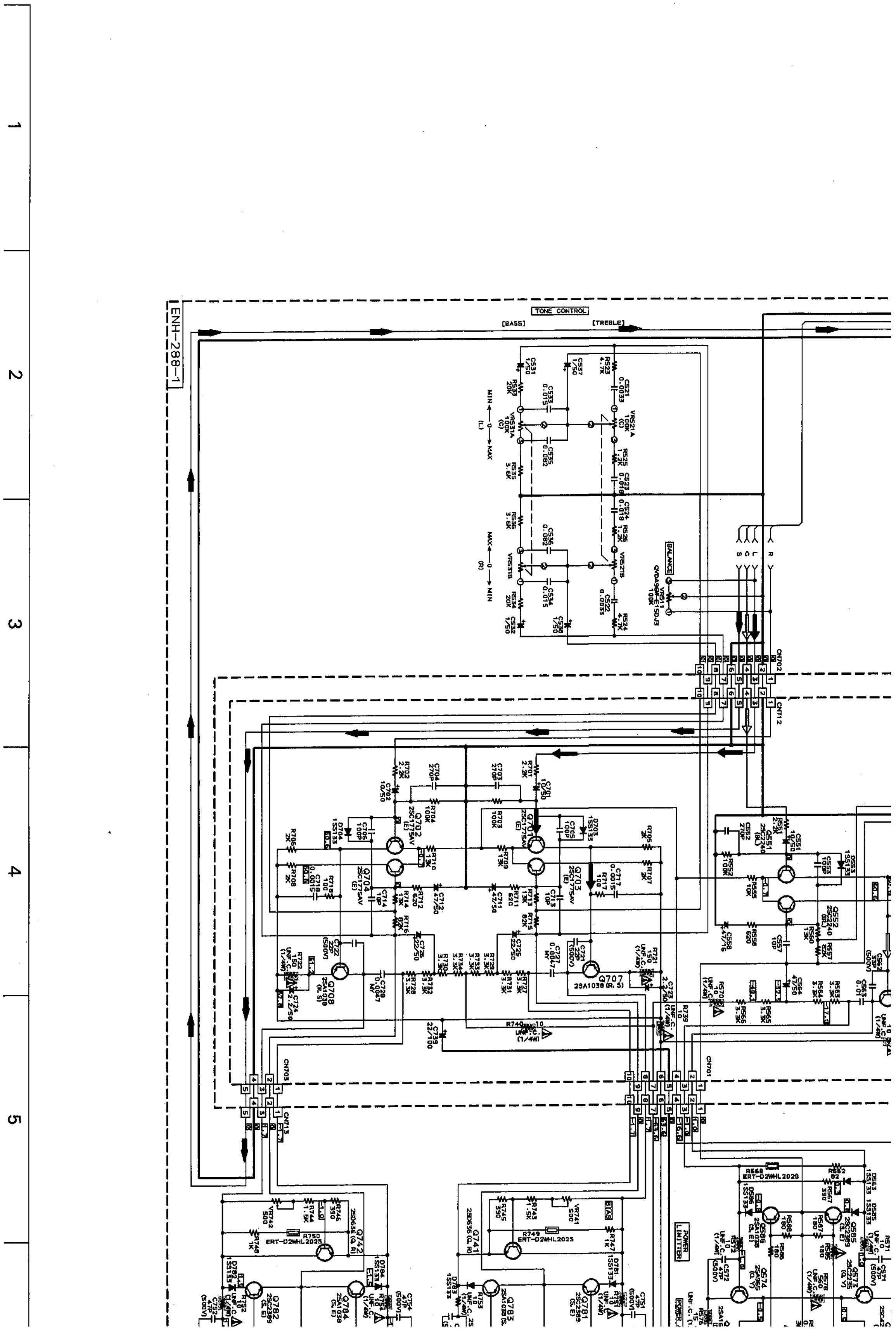
Notes:
1. ⬅ indicates Main signal path.
2. ⇦ indicates CENTER signal path.
3. ◀ indicates REAR signal path.

4. When replacing the parts in the darkened are (▨) and those marked with ⚠, be sure to use the designated parts to ensure safety.

5. This is the standard circuit diagram. The design and contents are subject to change withoutnotice.

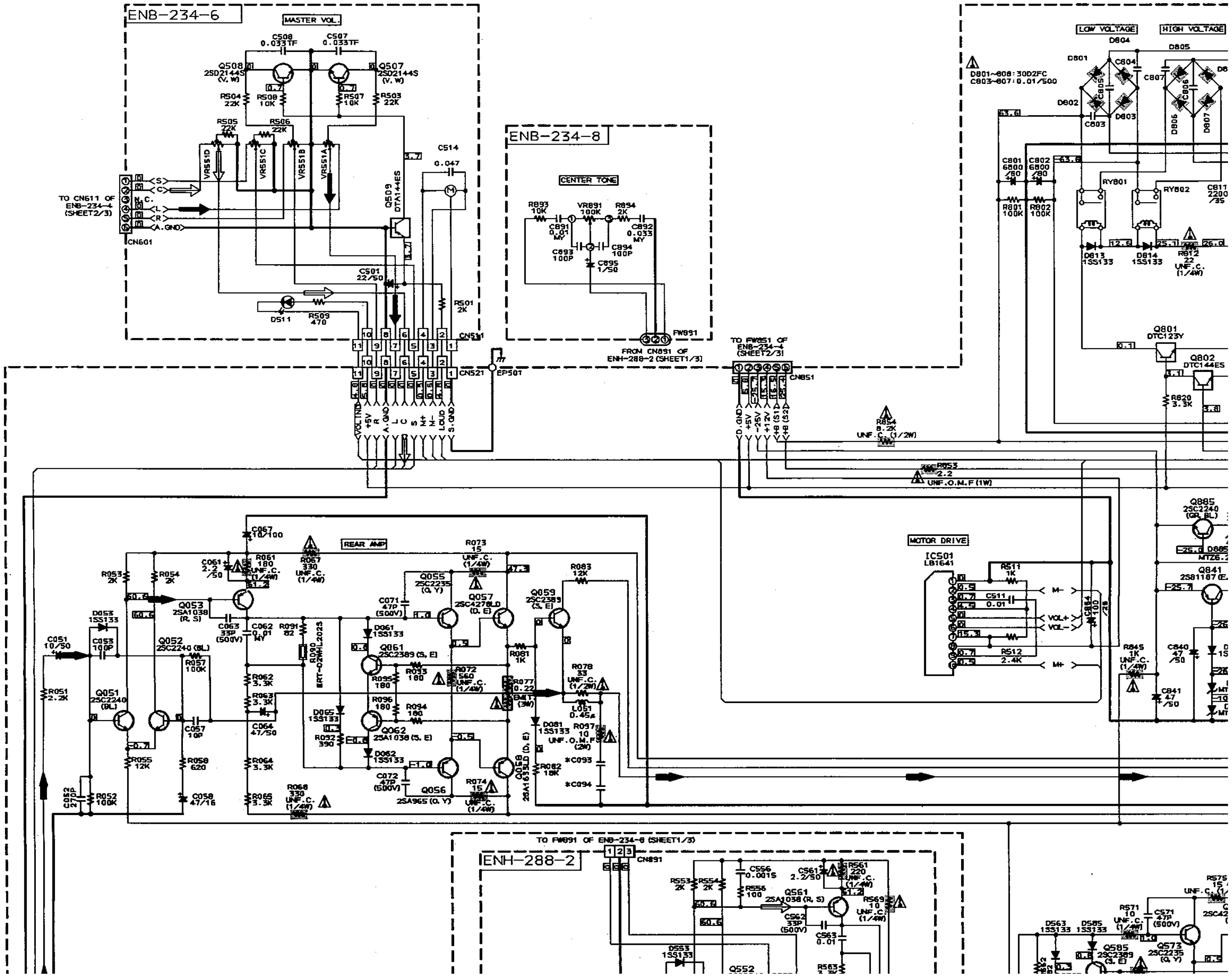
P2-19-a

P2-19-c

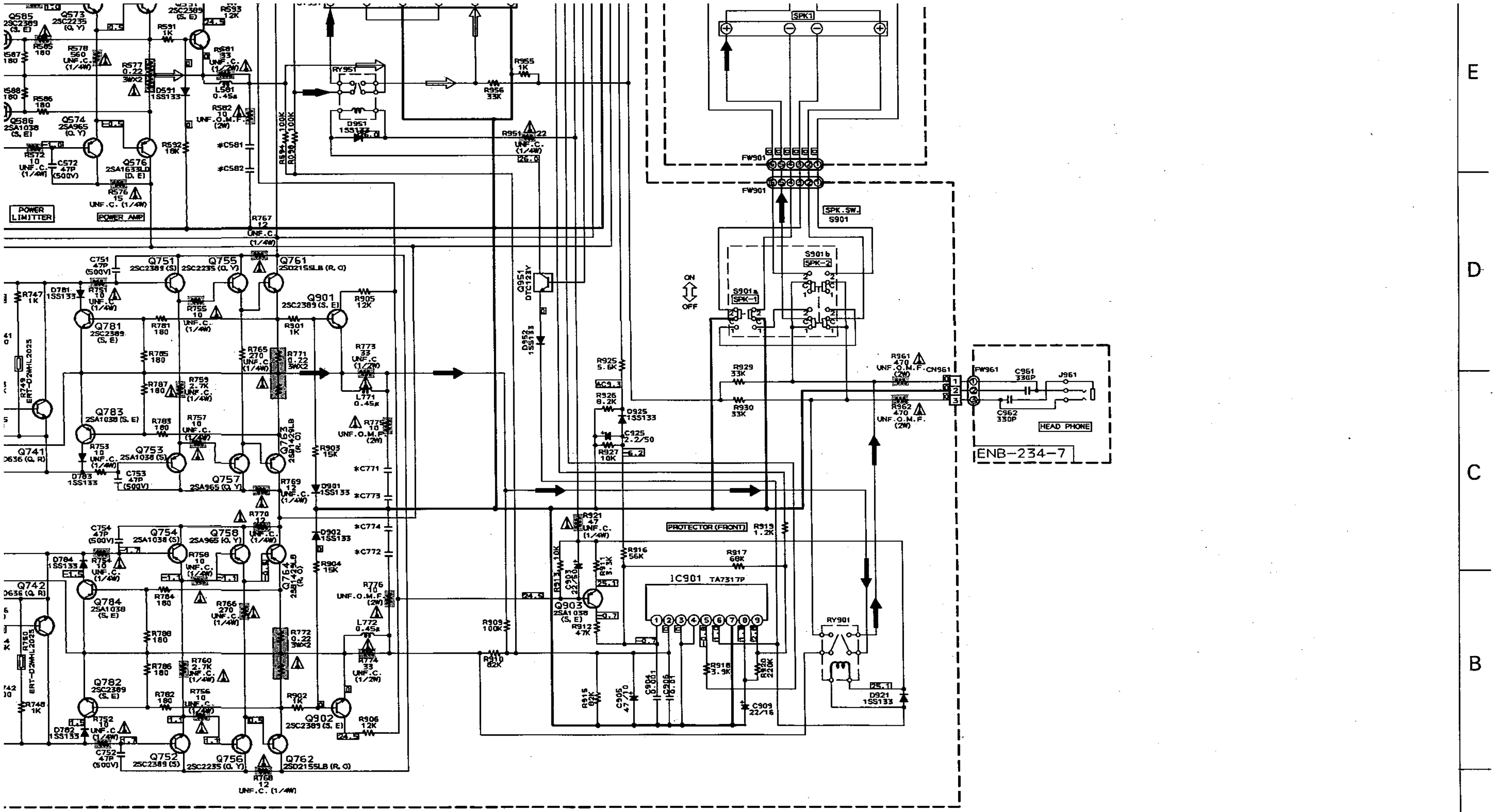

1
2
3
4
5
ENH-288-1
TONE CONTROL
[BASS]
[TREBLE]
BALANCE
CN702
CN712
CN701
CN703
CN713
Q701
Q702
Q703
Q704
Q707
Q708
Q741
Q742
Q781
Q782
Q783
Q784
POWER LIMITER

Schematic Diagrams

■ Power Amplifier Section



ENB-234-6
MASTER VOL.
Q508 2SD2144S (V, W)
Q507 2SD2144S (V, W)
C508 0.033TF
C507 0.033TF
VR551A
VR551B
VR551C
VR551D
Q509 DTA144ES
C514 0.047
C501 22/50
R501 2K
R509 470
D511
TO CN611 OF ENB-234-4 (SHEET2/3)
CN601
CN511
CN521
EP501
VOL.IND
+5V
R
A.GND
L
C
S
M+
M-
LOUD
S.GND
ENB-234-8
CENTER TONE
VR891 100K
R893 10K
R894 2K
FW891
FROM CN891 OF ENH-288-2 (SHEET1/3)
TO FW851 OF ENB-234-4 (SHEET2/3)
CN851
D.GND
-25V
+12V
+B (S1)
+B (S2)
R854 8.2K UNF.C. (1/2W)
R853 2.2 UNF.O.M.F (1W)
LOW VOLTAGE
HIGH VOLTAGE
D801~808: 30D2FC
C803~807: 0.01/500
RY801
RY802
Q801 DTC123Y
Q802 DTC144ES
R820 3.3K
REAR AMP
Q051 2SC2240 (BL)
Q052 2SC2240 (BL)
Q053 2SA1038 (R, S)
Q055 2SC2235 (O, Y)
Q056 2SA965 (O, Y)
Q057 2SC4278LD (D, E)
Q058 2SA1633LD (D, E)
Q059 2SC2389 (S, E)
Q061 2SC2389 (S, E)
Q062 2SA1038 (S, E)
R090 ERT-D2WHL2023
L051 0.45μ
MOTOR DRIVE
IC501 LB1641
R511 1K
R512 2.4K
C511 0.01
C854 100/25
VOL+
VOL-
Q885 2SC2240 (GR, BL)
Q841 2SB1187 (E)
ENH-288-2
TO FW891 OF ENB-234-8 (SHEET1/3)
CN891
Q561 2SA1038 (R, S)
Q585 2SC2389 (S, E)
Q573 2SC2235 (O, Y)



POWER LIMITTER
POWER AMP
Q751 2SC2389(S)
Q755 2SC2235(O, Y)
Q761 2SD2155LB (R, O)
Q901 2SC2389(S, E)
Q781 2SC2389 (S, E)
Q783 2SA1038(S, E)
Q753 2SA1038(S)
Q757 2SA965(O, Y)
Q741
Q742
Q754 2SA1038(S)
Q758 2SA965(O, Y)
Q764 2SB1429LB (R, O)
Q784 2SA1038 (S, E)
Q782 2SC2389 (S, E)
Q752 2SC2389(S)
Q756 2SC2235(O, Y)
Q762 2SD2155LB (R, O)
Q902 2SC2389(S, E)
Q903 2SA1038 (S, E)
Q951 DTC123Y
Q573 2SC2235 (O, Y)
Q574 2SA965 (O, Y)
Q576 2SA1633LD (D, E)
Q585 2SC2389 (S, E)
Q586 2SA1038 (S, E)
R749 ERT-D2WHL2025
R750 ERT-D2WHL2025
RY951
D951 1SS133
D952 1SS133
SPK1
FW901
SPK. SW. S901
S901a SPK-1
S901b SPK-2
ON
OFF
R961 470 UNF.O.M.F.
R962 470 UNF.O.M.F. (2W)
CN961
FW961
C961 330P
C962 330P
J961
HEAD PHONE
ENB-234-7
PROTECTOR (FRONT)
IC901 TA7317P
RY901
D921 1SS133
L771 0.45µ
L772 0.45µ
L581 0.45µ
E
D
C
B

Notes:

1. ⟵ indicates Main signal path.

2. ⇦ indicates CENTER signal path.

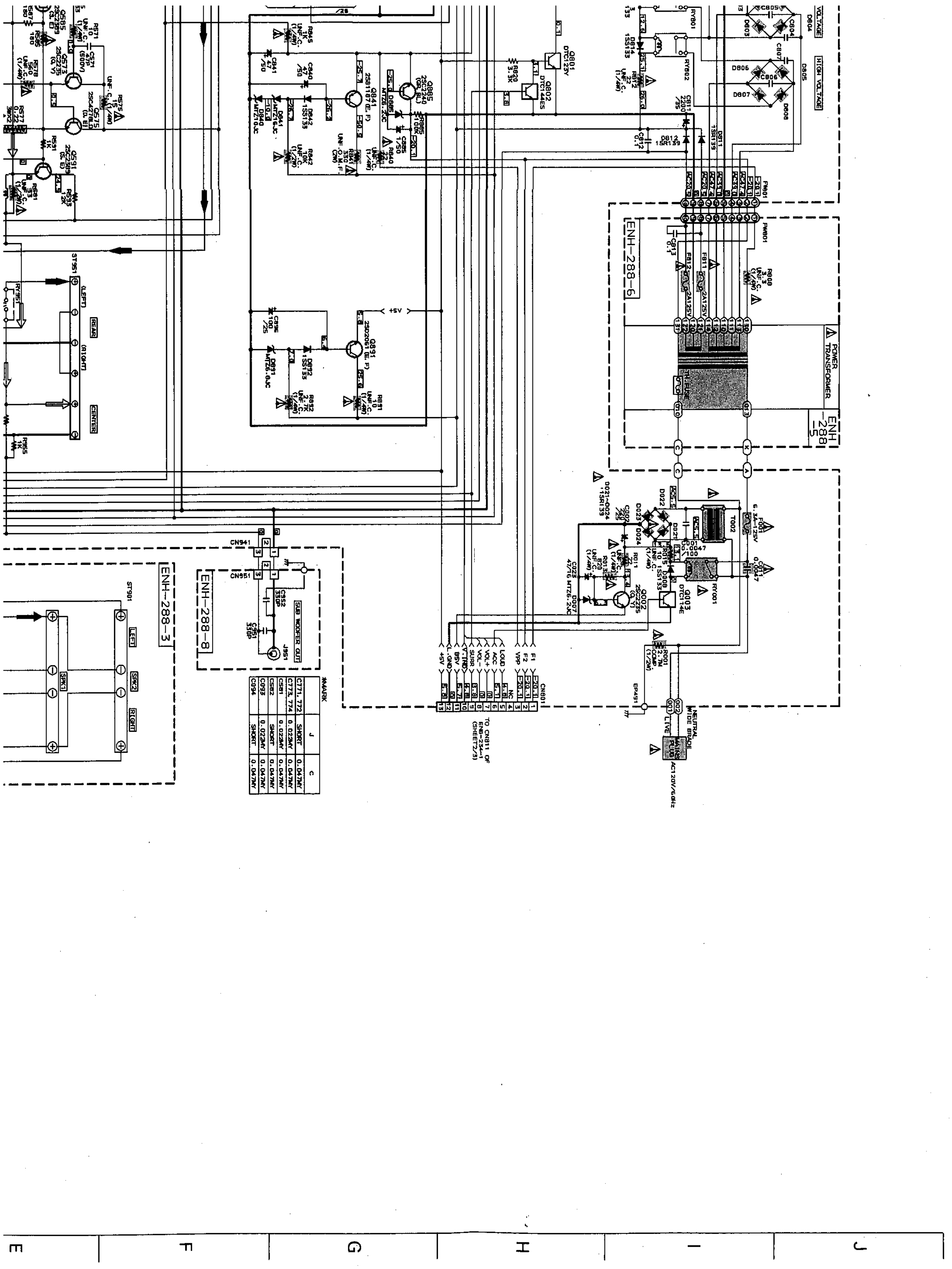
3. ◀ indicates REAR signal path.

4. When replacing the parts in the darkened are (▨) and those marked with ⚠ ,be sure to use the designated parts to ensure safety.

5. This is the standard circuit diagram. The design and contents are subject to change withoutnotice.

A

6	7	8	9	10



ENH-288-6
ENH-288-5
ENH-288-3
ENH-288-8
POWER TRANSFORMER
VOLTAGE
HIGH VOLTAGE
SUB WOOFER OUT
J951
C951 330P
C952 330P
CN941
CN951
ST901
ST951
LEFT
RIGHT
REAR
CENTER
SPK1
SPK2
FW801
PW801
CN801
F1
F2
VPP
ACC
LOUD
VOL+
VOL-
SURR
V.TRD
BSY
L-GND
+5V
TO CN811 OF ENH-288-1 (SHEET 2/3)
NEUTRAL WIDE BRADE
LIVE
PLUG
AC120V/60Hz
EP491
RY001
RY801
RY802
T002
F001
Q003 DTC114E
Q002 2SC2235
Q801 DTC123Y
Q802 DTC144ES
Q885 2SC2240
Q841 2SB1187
Q891 2SD2061
Q573 2SC2235
Q575 2SA1085
Q585 2SC2389
Q591 2SC2389
D021~D024 11SR139
D803
D804
D805
D806
D807
D808
D811 1SR139
E
F
G
H
I
J

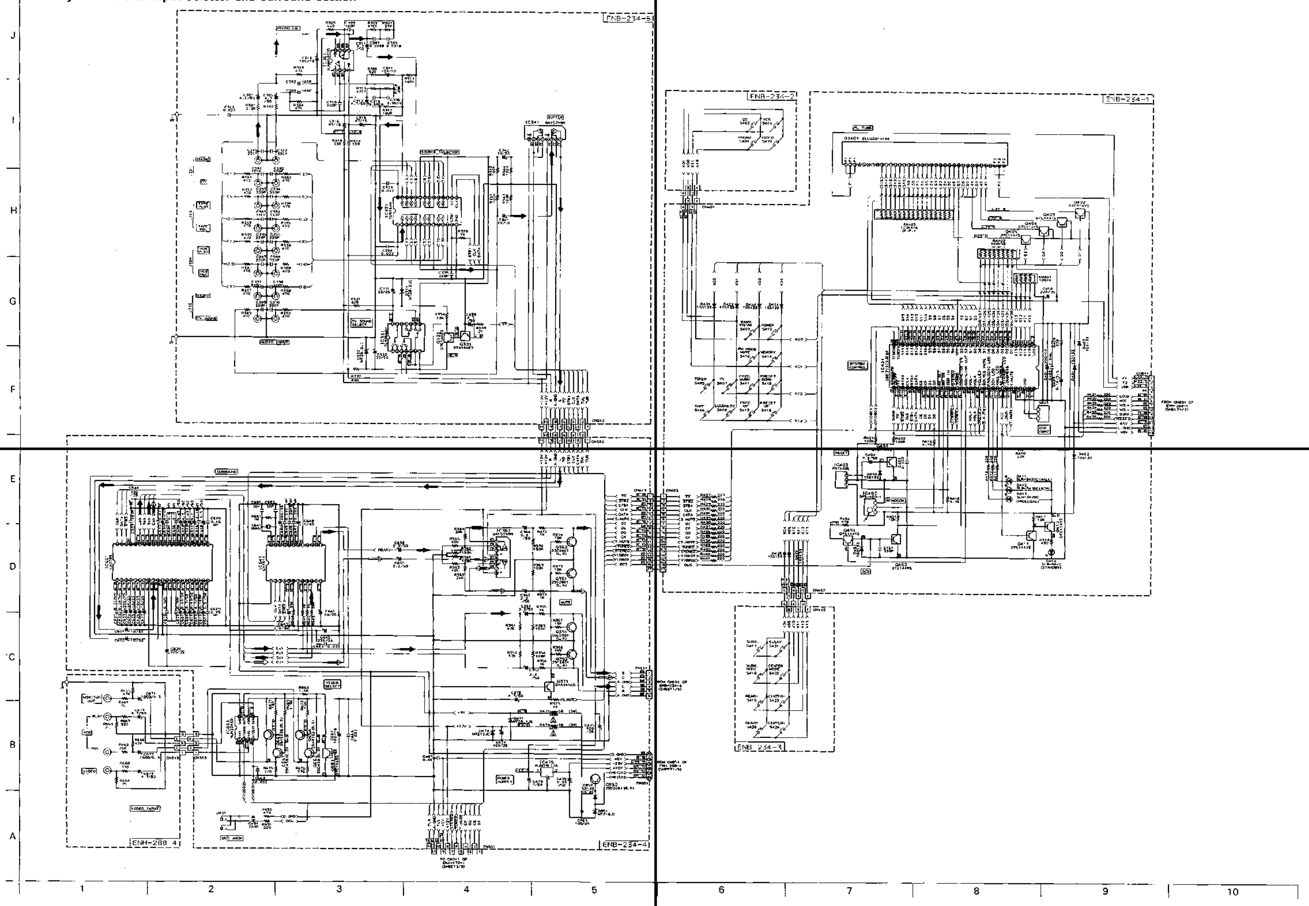
*MARK	J	C
C771, 772	SHORT	0.047MY
C773, 774	0.022MY	0.047MY
C581	0.022MY	0.047MY
C582	SHORT	0.047MY
C093	0.022MY	0.047MY
C094	SHORT	0.047MY

RX-662VBK

P2-20-b

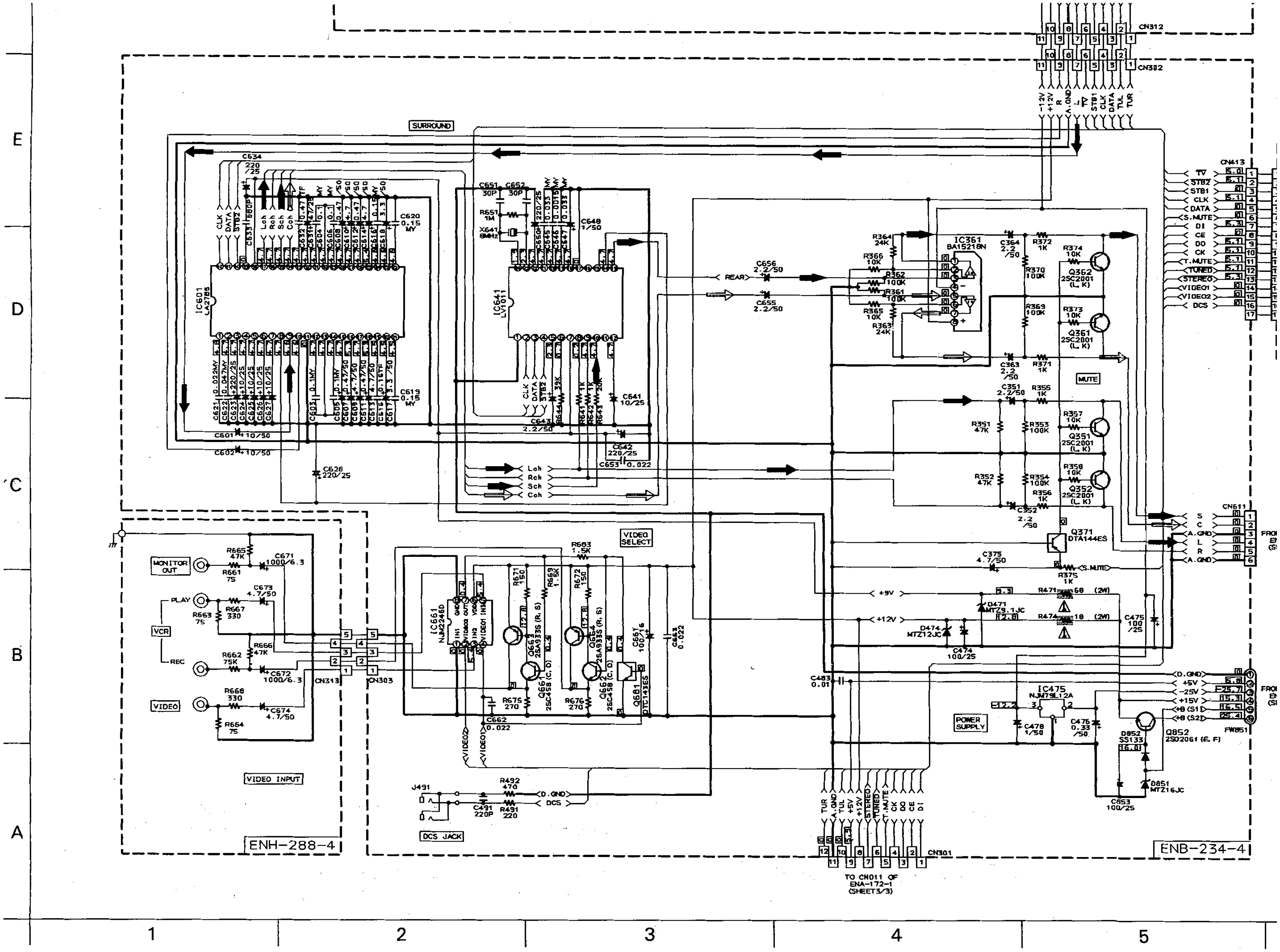
P2-20-d

■ System Control / Input Selector and Surround Section

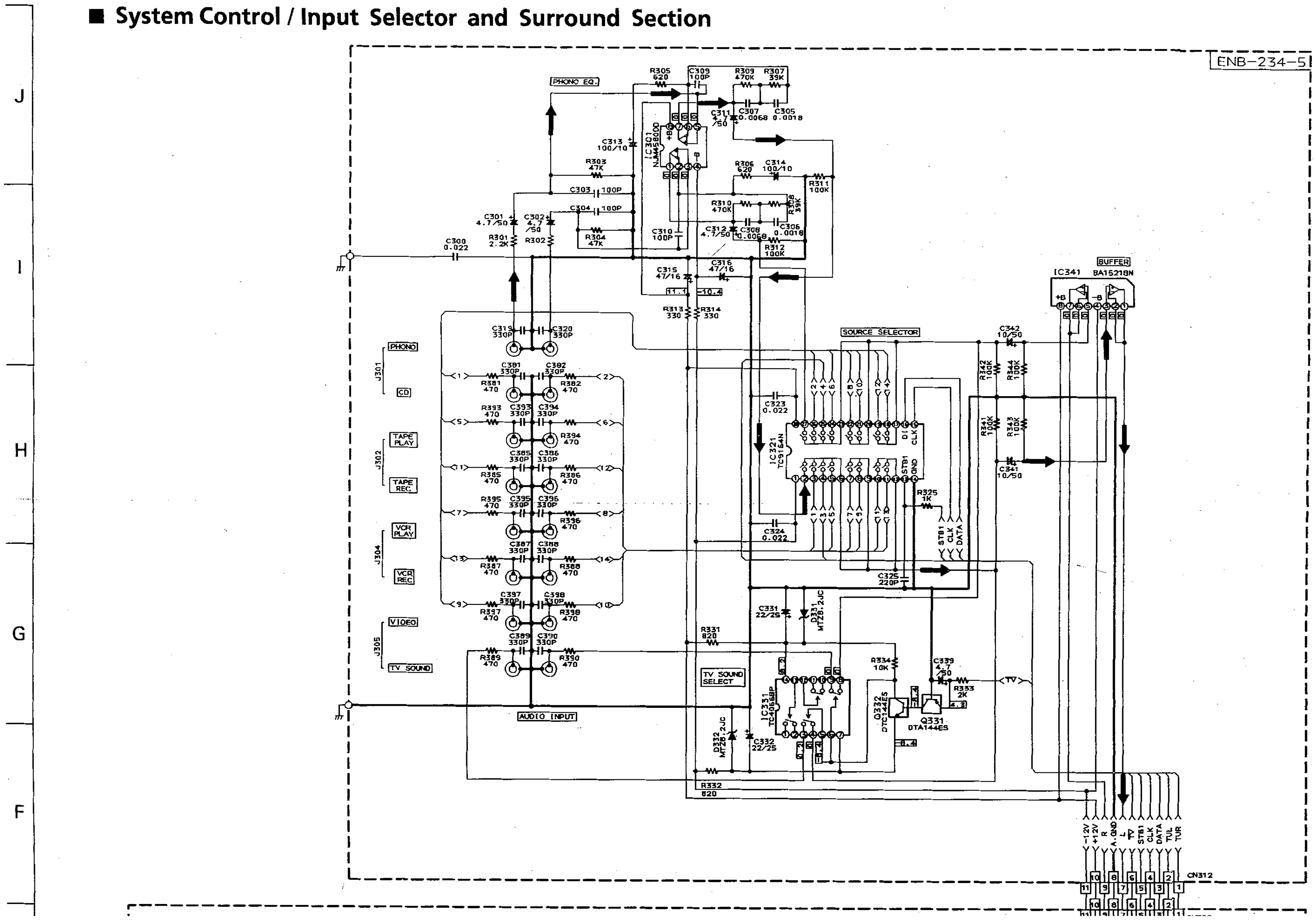

ENB-234-5
ENB-234-2
ENB-234-1
ENB-234-4
ENB-234-3
ENH-288
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10

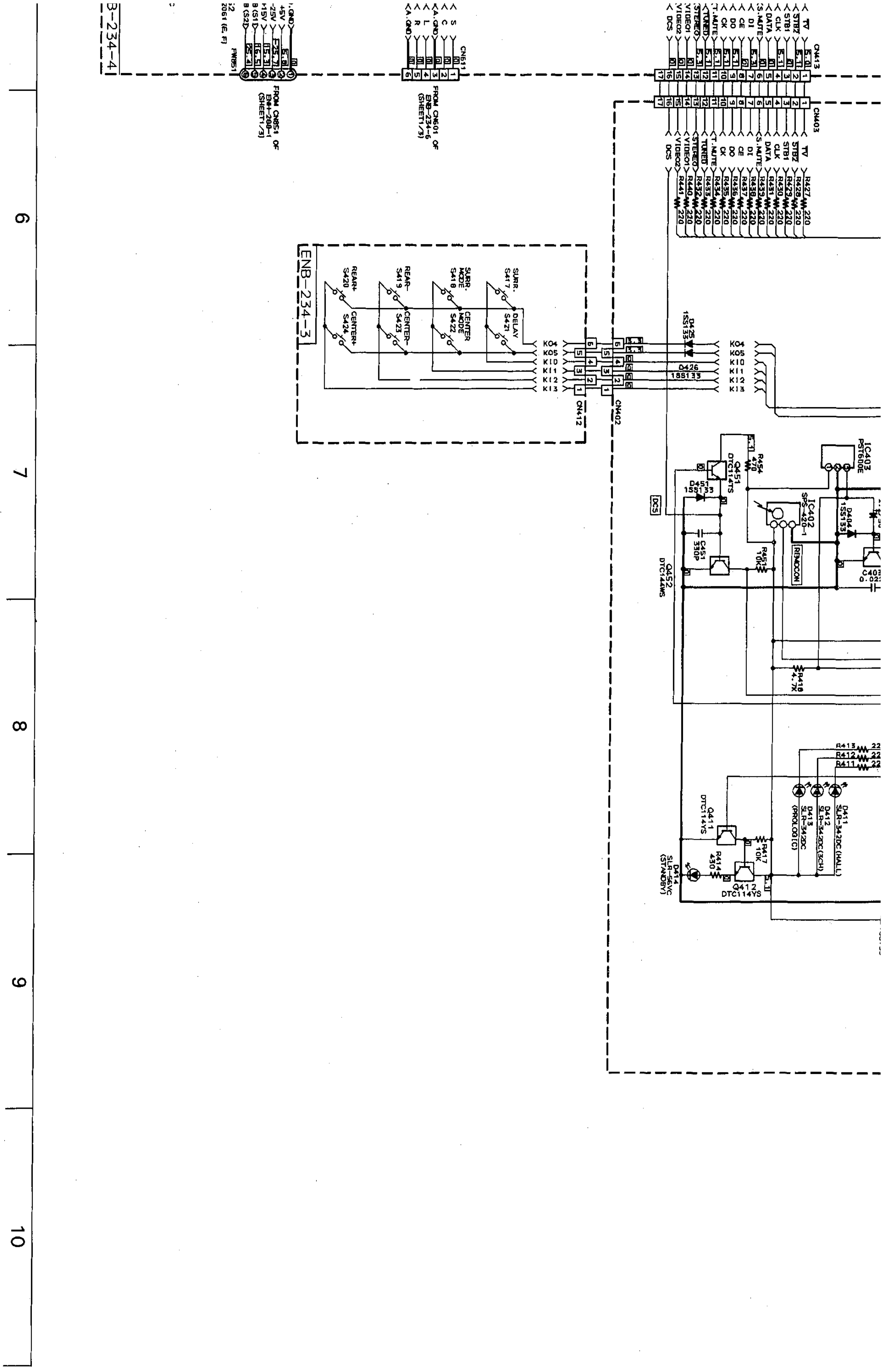
P2-20-a

P2-20-c

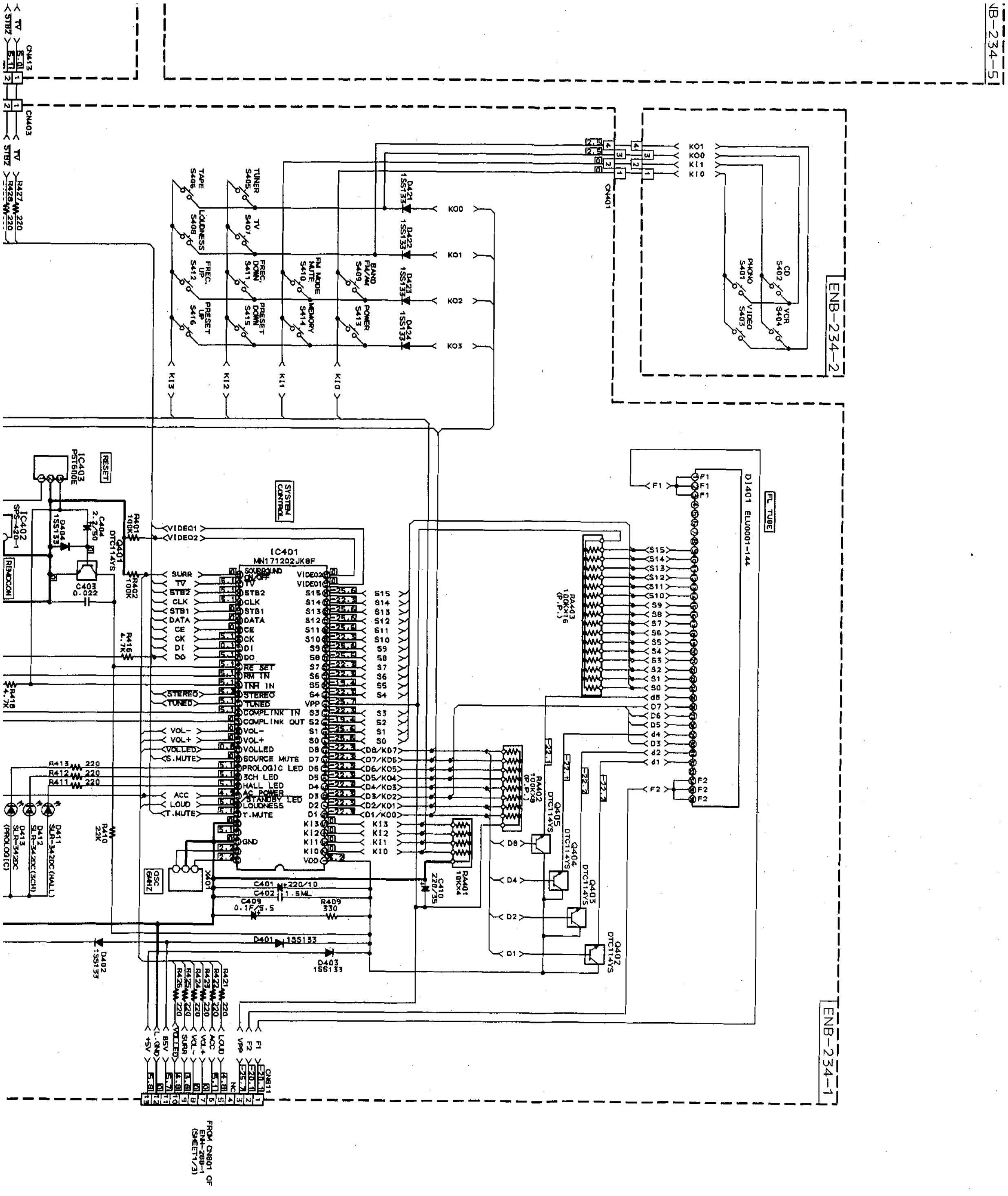

A
B
C
D
E
1
2
3
4
5
SURROUND
IC601 LA2785
CLK
DATA
STB2
Lch
Rch
Sch
Cch
C634 220/25
C620 0.15 MY
C619 0.15 MY
C601 10/50
C602 10/50
C628 220/25
IC641 LV1011
C651 30P
C652 30P
R651 1M
X641 8MHz
C648 1/50
C641 10/25
C642 220/25
C643 2.2/50
C653 0.022
R641 1K
R642 1K
R643 20K
R644 39K
REAR
C656 2.2/50
C655 2.2/50
IC361 BA15218N
R364 24K
R366 10K
R362 100K
R361 100K
R365 10K
R363 24K
C364 2.2/50
R372 1K
R370 100K
R374 10K
Q362 2SC2001 (L, K)
R369 100K
R373 10K
Q361 2SC2001 (L, K)
C363 2.2/50
R371 1K
MUTE
C351 2.2/50
R355 1K
R351 47K
R353 100K
R357 10K
Q351 2SC2001 (L, K)
R352 47K
R354 100K
R358 10K
Q352 2SC2001 (L, K)
R356 1K
C352 2.2/50
Q371 DTA144ES
C375 4.7/50
R375 1K
S.MUTE
+5V
+12V
R471 68 (2W)
D471 MTZ9.1JC
R474 18 (2W)
D474 MTZ12JC
C474 100/25
C475 100/25
C483 0.01
IC475 NJM79L12A
-12.2
POWER SUPPLY
C478 1/50
C476 0.33/50
D852 SS133
Q852 2SD2061 (E, F)
D851 MTZ16JC
C853 100/25
FW851
D.GND
+5V
-25V
+15V
+B (S1)
+B (S2)
CN611
S
C
A.GND
L
R
A.GND
CN413
TV
STB2
STB1
CLK
DATA
S.MUTE
DI
CE
DO
CK
T.MUTE
TUNED
STEREO
VIDEO1
VIDEO2
DCS
CN302
CN312
-12V
+12V
R
A.GND
L
TV
STB1
CLK
DATA
TUL
TUR
CN301
TUR
A.GND
TUL
+5V
+12V
STEREO
TUNED
T.MUTE
CK
DO
CE
DI
TO CN011 OF ENA-172-1 (SHEET3/3)
ENB-234-4
VIDEO SELECT
IC661 NJM2246D
R683 1.5K
R671 150
R669 1.5K
R672 150
Q663 2SA933S (R, S)
Q664 2SA933S (R, S)
Q661 2SC458 (C, D)
Q662 2SC458 (C, D)
Q681 DTC143ES
C667 100/16
C663 0.022
C662 0.022
R675 270
R676 270
VIDEO2
VIDEO1
CN313
CN303
J491
R492 470
C491 220P
R491 220
D.GND
DCS
DCS JACK
MONITOR OUT
R665 47K
C671 1000/6.3
R661 75
PLAY
VCR
REC
C673 4.7/50
R663 75
R667 330
R666 47K
R662 75K
C672 1000/6.3
VIDEO
R668 330
C674 4.7/50
R664 75
VIDEO INPUT
ENH-288-4

■ System Control / Input Selector and Surround Section


J
I
H
G
F
ENB-234-5
PHONO EQ.
IC301 NJM4580DD
R305 620
C309 100P
R309 470K
R307 39K
C307 0.0068
C305 0.0018
C311 4.7/50
C313 100/10
R303 47K
C303 100P
C304 100P
R304 47K
C301 4.7/50
C302 4.7/50
R301 2.2K
R302
C300 0.022
R306 620
C314 100/10
R311 100K
R310 470K
R308 39K
C310 100P
C312 4.7/50
C308 0.0068
C306 0.0018
R312 100K
C315 47/16
C316 47/16
R313 330
R314 330
J301
PHONO
CD
J302
TAPE PLAY
TAPE REC.
J304
VCR PLAY
VCR REC
J305
VIDEO
TV SOUND
AUDIO INPUT
C319 330P
C320 330P
C381 330P
C382 330P
R381 470
R382 470
R393 470
C393 330P
C394 330P
R394 470
C385 330P
C386 330P
R385 470
R386 470
R395 470
C395 330P
C396 330P
R396 470
C387 330P
C388 330P
R387 470
R388 470
C397 330P
C398 330P
R397 470
R398 470
C389 330P
C390 330P
R389 470
R390 470
SOURCE SELECTOR
IC321 TC9164N
C323 0.022
C324 0.022
C325 220P
R325 1K
STB1
CLK
DATA
DI
GND
IC341 BA15218N
BUFFER
C342 10/50
C341 10/50
R342 100K
R344 100K
R341 100K
R343 100K
C331 22/25
D331 MTZ8.2JC
R331 820
TV SOUND SELECT
IC331 TC4066BP
R334 10K
Q332 DTC144ES
Q331 DTA144ES
C339 4.7/50
R333 2K
TV
D332 MTZ8.2JC
C332 22/25
R332 820
-12V
+12V
R
A.GND
L
TV
STB1
CLK
DATA
TUL
TUR
CN312



ENB-234-3
CN402
CN403
CN412
CN413
CN611
IC402
SPS-420-1
IC403
PST600E
Q451
DTC114TS
Q452
DTC144WS
Q411
DTC114YS
Q412
DTC114YS
S417
S418
S419
S420
S421
S422
S423
S424
D425
1SS133
D426
1SS133
D451
1SS133
D411
SLR-342DC(HALL)
D412
SLR-342DC(3CH)
D413
SLR-342DC
(PROLOGIC)
D414
SLR-56VC
(STANDBY)
C451
330P
R451
10K
R454
R416
4.7K
R417
10K
R414
430
R411
R412
R413
K04
K05
K10
K11
K12
K13
REMOCON
DCS
SURR.
DELAY
CENTER
MODE
REAR+
REAR-
CENTER+
CENTER-
TV
STB2
STB1
CLK
DATA
S.MUTE
DI
CE
CK
DO
T.MUTE
TUNED
STEREO
VIDEO1
VIDEO2
A.GND
S
C
L
R
PW851
FROM CN851 OF
FROM CN601 OF
(SHEET1/3)
6
7
8
9
10

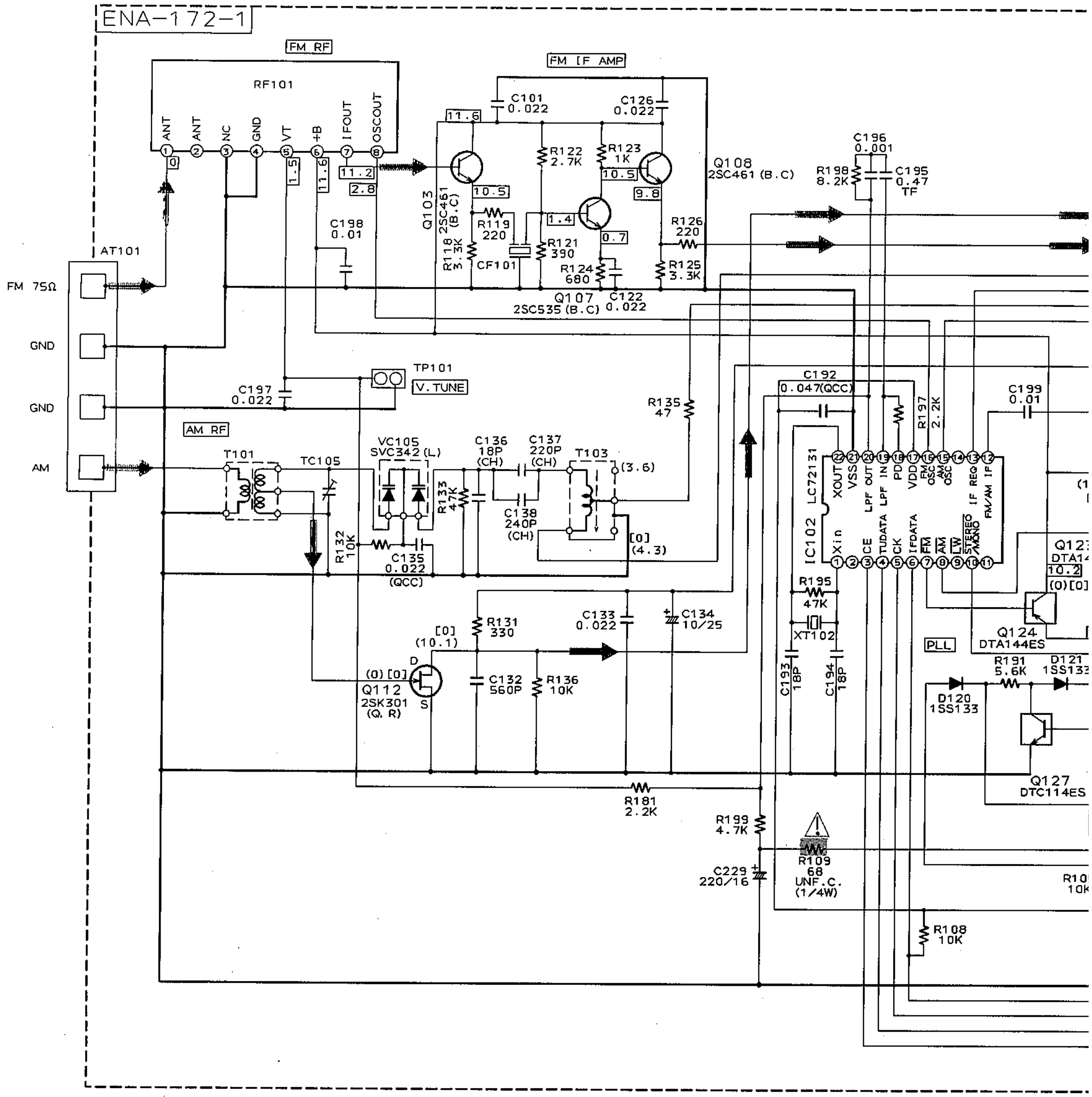


ENB-234-1
ENB-234-2
NB-234-5
IC401
MN171202JK8F
SYSTEM CONTROL
FL TUBE
D1401 ELU0001-144
IC403
PST600E
RESET
IC402
SPS-420-1
REMOCON
OSC 6MHZ
X401
CN401
CN403
CN413
CN811
FROM CN801 OF ENH-288-1 (SHEET1/3)
S401 PHONO
S402 CD
S403 VIDEO
S404 VCR
S405 TUNER
S406 TAPE
S407 TV
S408 LOUDNESS
S409 BAND FM/AM
S410 FM MODE MUTE
S411 FREC. DOWN
S412 FREC. UP
S413 POWER
S414 MEMORY
S415 PRESET DOWN
S416 PRESET UP
D421 1SS133
D422 1SS133
D423 1SS133
D424 1SS133
KO0
KO1
KO2
KO3
KI0
KI1
KI2
KI3
RA401 10K×4
RA402 100K×8 (P.P.)
RA403 100K×16 (P.P.)
Q402 DTC114YS
Q403 DTC114YS
Q404 DTC114YS
Q405 DTC114YS
Q401 DTC114YS
D401 1SS133
D402 1SS133
D403 1SS133
D404 1SS133
D411 SLR-342DC (HALL)
D412 SLR-342DC (3CH)
D413 SLR-342DC (PROLOGIC)
C401 220/10
C402 1.5ML
C403 0.022
C404 2.2/50
C409 0.1F/5.5
C410 220/35
R401 100K
R402 100K
R409 330
R410 22K
R411 220
R412 220
R413 220
R416 4.7K
R418 4.7K
R421 220
R422 220
R423 220
R424 220
R425 220
R426 220
R427 220
R428 220
VIDEO1
VIDEO2
SURR
TV
STB2
CLK
STB1
DATA
CE
CK
DI
DO
STEREO
TUNED
VOL−
VOL+
VOLLED
S.MUTE
ACC
LOUD
T.MUTE
SOURROUND
ON/OFF
RE SET
RM IN
INH IN
COMPLINK IN
COMPLINK OUT
SOURCE MUTE
PROLOGIC LED
3CH LED
HALL LED
AC POWER
STANDBY LED
LOUDNESS
GND
VDD
VPP
S0 S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15
D1/KO0
D2/KO1
D3/KO2
D4/KO3
D5/KO4
D6/KO5
D7/KD6
D8/KD7
F1
F2
D1
D2
D4
D8
+5V
GND
B5V
NC

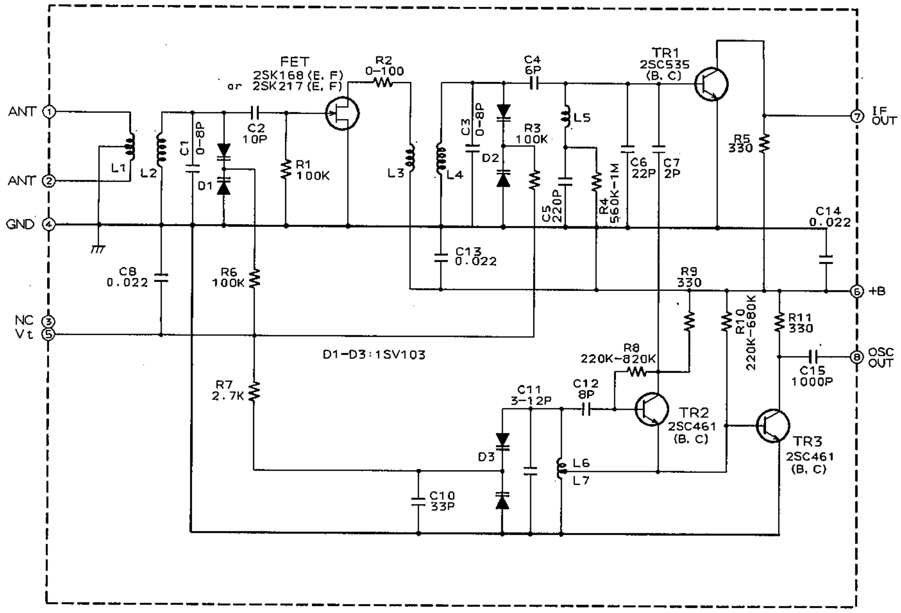
■ Tuner Section

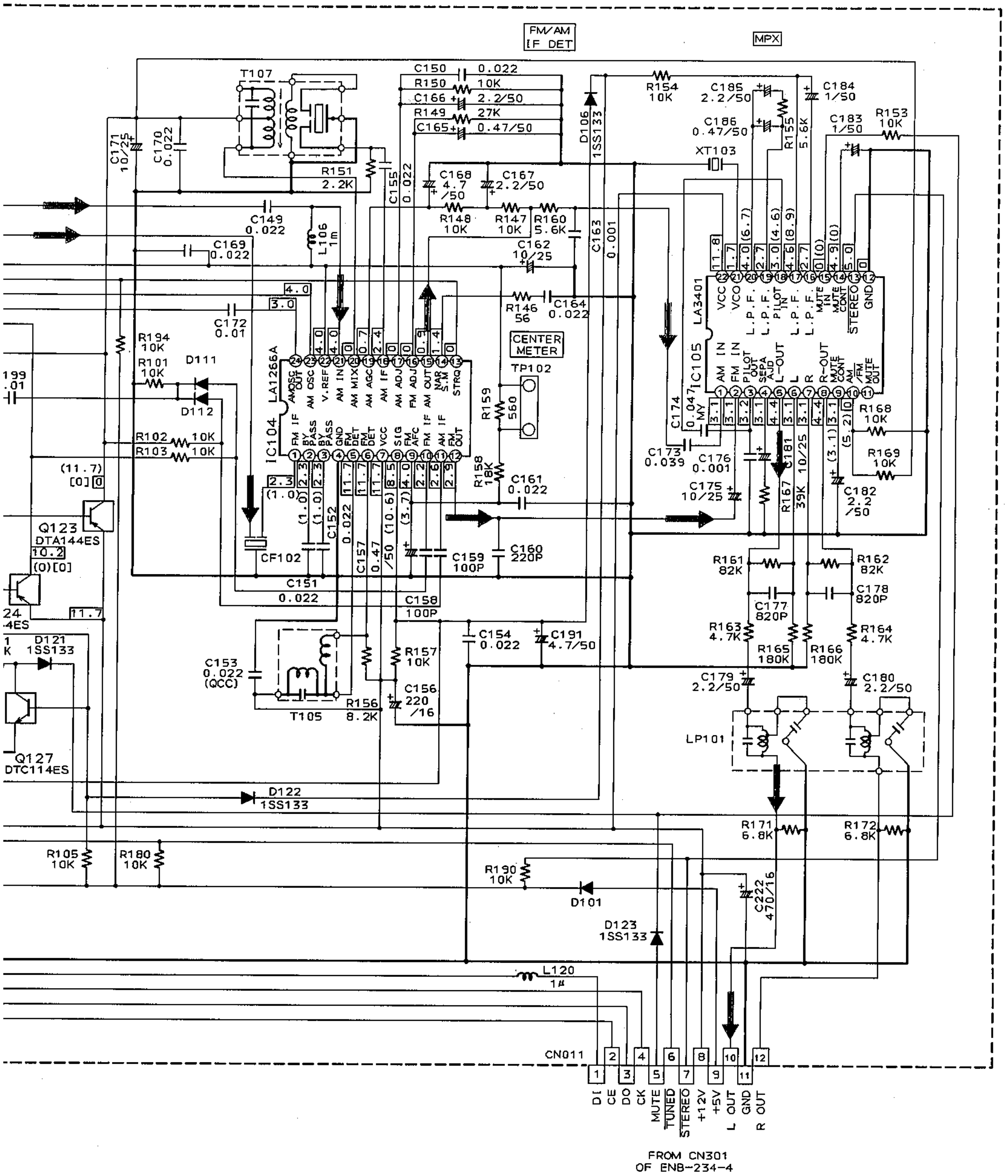
FOR J, C

ENA-172-1


FM RF
RF101
ANT ANT NC GND VT +B IFOUT OSCOUT
① ② ③ ④ ⑤ ⑥ ⑦ ⑧
0
1.5
11.6
11.2
2.8
FM IF AMP
C101 0.022
C126 0.022
11.6
R122 2.7K
R123 1K
10.5
Q108 2SC461 (B.C)
Q103 2SC461 (B.C)
10.5
R119 220
R118 3.3K
1.4
0.7
9.8
R126 220
R121 390
R124 680
R125 3.3K
CF101
Q107 2SC535 (B.C)
C122 0.022
C198 0.01
C196 0.001
R198 8.2K
C195 0.47 TF
AT101
FM 75Ω
GND
GND
AM
TP101
V. TUNE
C197 0.022
AM RF
T101
TC105
VC105 SVC342 (L)
C136 18P (CH)
C137 220P (CH)
T103
(3.6)
R133 47K
C138 240P (CH)
[0] (4.3)
R132 10K
C135 0.022 (QCC)
R135 47
C192 0.047(QCC)
R197 2.2K
C199 0.01
IC102 LC72131
XOUT VSS LPF OUT LPF IN PD VDD FM OSC AM OSC IF REQ FM/AM IF
Xin CE TUDATA CK IFDATA FM AM SW STEREO MONO
R195 47K
XT102
C193 18P
C194 18P
Q124 DTA144ES
Q12
DTA14
10.2
(0)[0]
PLL
R191 5.6K
D121 1SS133
D120 1SS133
Q127 DTC114ES
R131 330
[0] (10.1)
C133 0.022
C134 10/25
D
(0) [0]
Q112 2SK301 (Q, R)
S
C132 560P
R136 10K
R181 2.2K
R199 4.7K
C229 220/16
R109 68 UNF.C. (1/4W)
R108 10K
R10 10K

RF101
EAF2203-004


ANT ①
ANT ②
GND ④
NC ③
Vt ⑤
L1
L2
C1 0-8P
D1
C2 10P
FET 2SK168 (E, F) or 2SK217 (E, F)
R2 0-100
R1 100K
L3
L4
C3 0-8P
D2
C4 6P
R3 100K
L5
C5 220P
R4 560K-1M
C6 22P
C7 2P
TR1 2SC535 (B, C)
R5 330
⑦ IF OUT
C14 0.022
⑥ +B
C8 0.022
R6 100K
C13 0.022
R9 330
R10 220K-680K
R11 330
D1-D3 : 1SV103
R8 220K-820K
C15 1000P
⑧ OSC OUT
R7 2.7K
C11 3-12P
C12 8P
TR2 2SC461 (B, C)
TR3 2SC461 (B, C)
D3
L6
L7
C10 33P

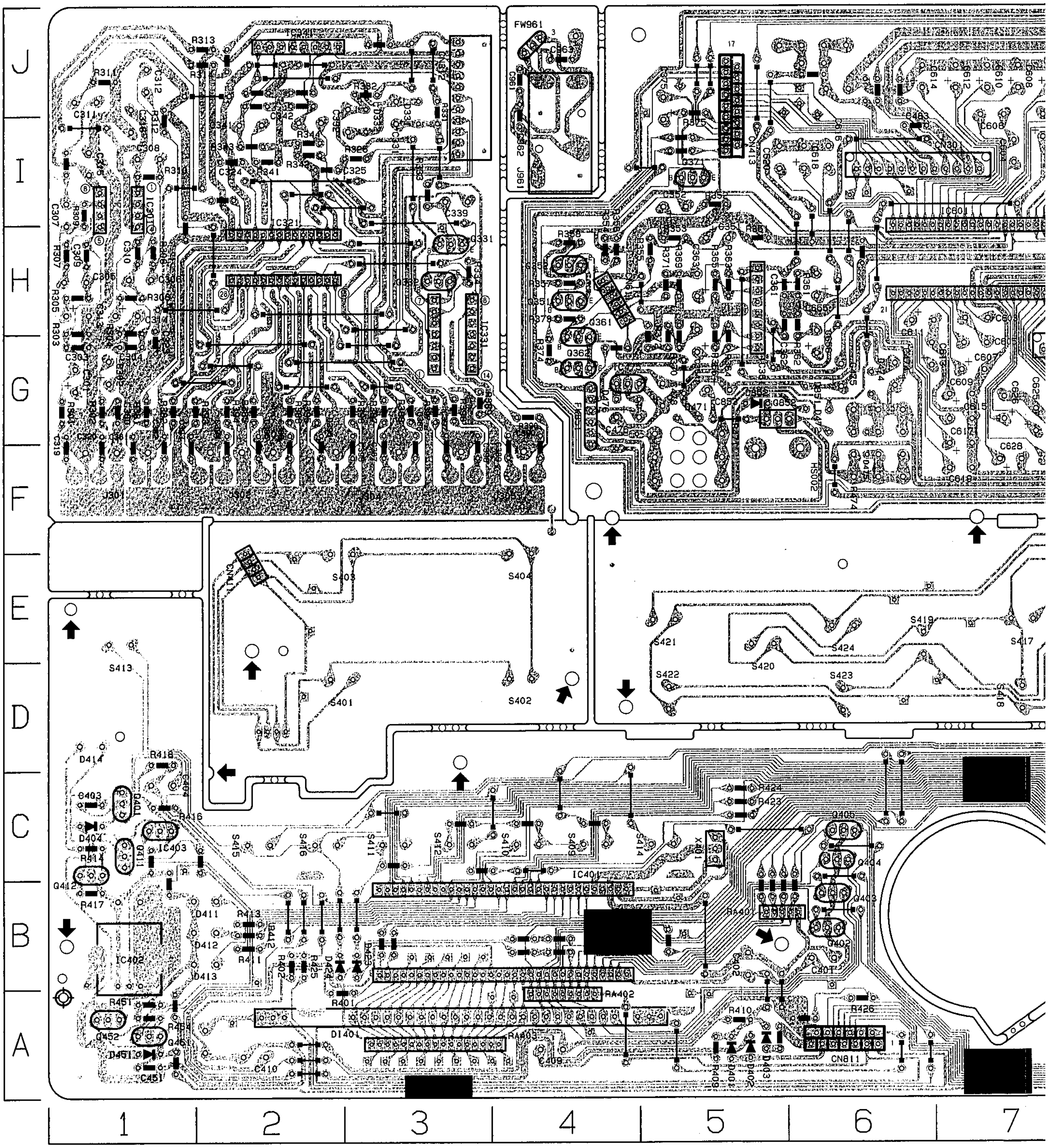

FM/AM
IF DET
MPX
T107
C171 10/25
C170 0.022
R151 2.2K
C155
0.022
C150 0.022
R150 10K
C166 2.2/50
R149 27K
C165 0.47/50
C168 4.7 /50
C167 2.2/50
R148 10K
R147 10K
R160 5.6K
C162 10/25
C163 0.001
D106 1SS133
R154 10K
C185 2.2/50
C186 0.47/50
R155 5.6K
C184 1/50
C183 1/50
R153 10K
XT103
C149 0.022
L106 1m
C169 0.022
C172 0.01
R194 10K
R101 10K
D111
D112
R102 10K
R103 10K
IC104 LA1266A
AMOSC OUT
AM OSC
V.REF
AM IN
AM MIX
AM AGC
AM IF
AM ADJ
FM ADJ
AM OUT
NAR S.M
STRQ
FM IF
BY PASS
BY PASS
GND
FM DET
FM DET
VCC
SIG
FM AFC
FM IF
AM IF
FM OUT
R146 56
C164 0.022
CENTER METER
TP102
R159 560
R158 18K
C161 0.022
C160 220P
C159 100P
CF102
C151 0.022
C152
C157 0.47 /50
C158 100P
C153 0.022 (QCC)
T105
R156 8.2K
R157 10K
C156 220 /16
C154 0.022
C191 4.7/50
IC105 LA3401
VCC
VCO
L.P.F.
L.P.F.
PILOT IN
L.P.F.
L.P.F.
MUTE IN
MUTE CONT
STEREO
GND
AM IN
FM IN
PILOT OUT
SEPA ADJ
L OUT
L
R
R-OUT
MUTE CONT
AM FM
FM MUTE OUT
C174 0.047 MY
C173 0.039
C176 0.001
C175 10/25
C181 10/25
R167 39K
C182 2.2 /50
R168 10K
R169 10K
R161 82K
R162 82K
C177 820P
C178 820P
R163 4.7K
R164 4.7K
R165 180K
R166 180K
C179 2.2/50
C180 2.2/50
LP101
R171 6.8K
R172 6.8K
C222 470/16
R190 10K
D101
D123 1SS133
L120 1μ
199 .01
(11.7) [0] 0
Q123 DTA144ES
10.2
(0)[0]
24 -4ES
11.7
D121 1SS133
Q127 DTC114ES
D122 1SS133
R105 10K
R180 10K
CN011
1 2 3 4 5 6 7 8 9 10 11 12
DI
CE
DO
CK
MUTE
TUNED
STEREO
+12V
+5V
L OUT
GND
R OUT
FROM CN301 OF ENB-234-4

□ FM AUTO NO SIGNAL
( ) MW NO SIGNAL
[ ] LW NO SIGNAL

6	7	8	9	10

Printed Circuit Boards

■ System Control / Input Selector and Surround P.C. Board (ENB-234)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C312
C311
R312
C308
R310
IC301
C307
R309
R307
C309
C310
C305
R305
R306
R303
C303
C304
C321
C324
R341
C325
R326
C339
Q331
IC331
C319
J301
R399
C961
J961
Q371
CN413
R375
C621
C618
CN301
IC601
R358
Q351
Q361
Q362
R374
R373
R371
R369
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C607
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C617
C619
C608
C606
H5002
C471
Q851
S403
S404
S402
S401
S413
S421
S422
S424
S423
S420
S419
S417
S418
D414
R418
C403
Q401
C404
R416
D404
R414
Q411
IC403
Q412
R417
S415
S416
S411
S412
S410
S409
S414
X401
IC401
Q405
Q404
Q403
Q402
RA401
C401
D411
R413
R412
D412
R411
D413
IC402
R402
D424
D425
D423
R401
RA402
R451
Q452
Q451
D451
C451
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D403
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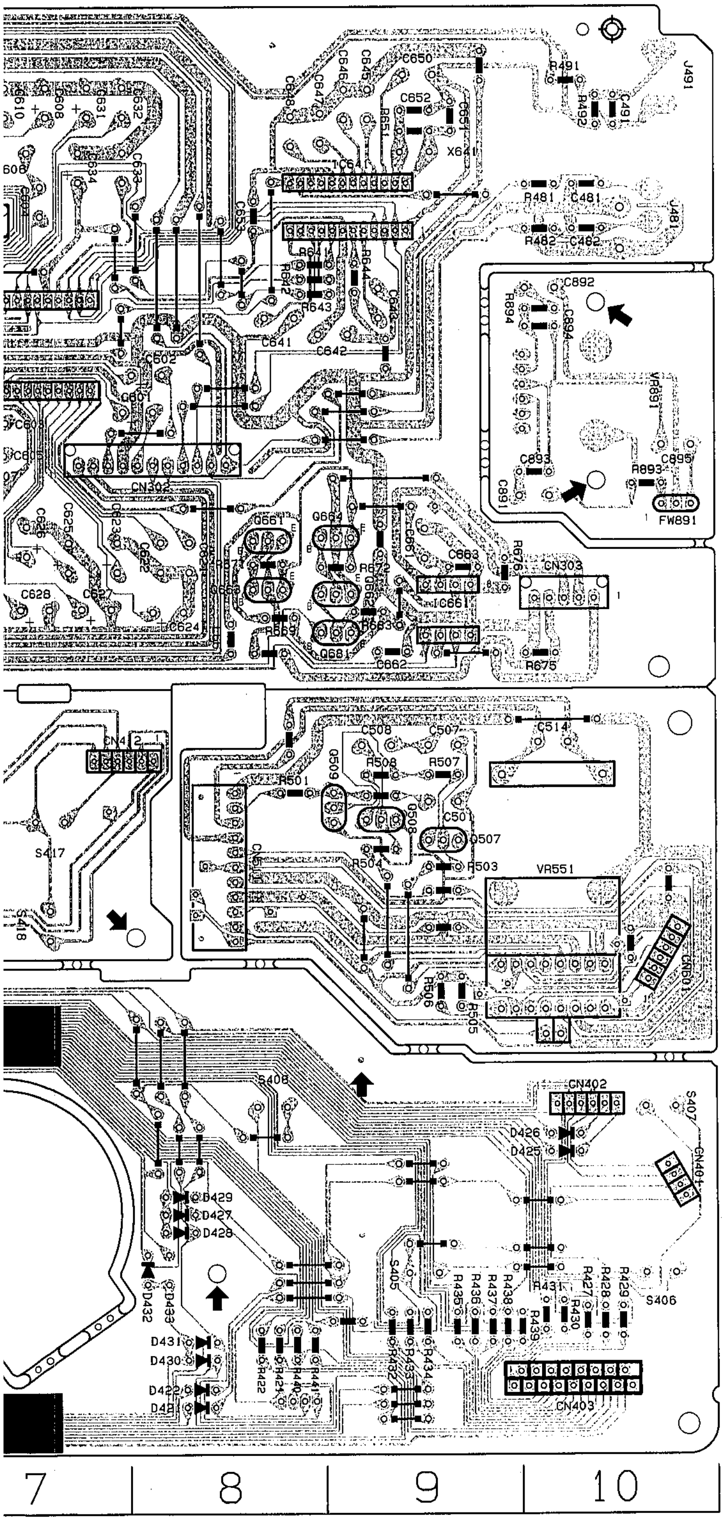
R424
R423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C462
J481
R641
R642
R643
R644
C892
R894
C894
VR891
C893
R893
C895
C891
FW891
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C642
C602
C601
CN302
C625
C623
C622
C627
C628
C624
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Q664
R672
C663
R676
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IC661
R683
Q681
C662
R675
CN412
C508
C507
C514
R508
R507
R501
Q509
Q508
C501
Q507
R504
R503
VR551
R506
R505
CN601
S417
S418
S408
CN402
S407
CN401
D426
D425
D429
D427
D428
D432
D433
D431
D430
D422
D421
S405
S406
R435
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R431
R427
R428
R429
R430
R439
R422
R421
R440
R441
R432
R433
R434
CN403
7
8
9
10

Location List(ENB234)

Symbol	X	Y
C300	1	G
C301	1	G
C302	1	G
C303	1	G
C304	1	G
C305	1	H
C306	1	H
C307	1	I
C308	1	I
C309	1	H
C310	1	H
C311	1	J
C312	1	J
C313	1	H
C314	1	H
C315	1	I
C316	1	I
C319	1	F
C320	1	G
C323	1	G
C324	2	I
C325	2	I
C331	3	I
C332	3	I
C339	3	I
C341	2	I
C342	2	I
C343	2	J
C344	2	J
C351	5	H
C352	5	I
C361	5	H
C362	5	G
C363	5	H
C364	5	G
C375	5	I
C381	1	F
C382	1	G
C385	2	F
C386	2	G
C387	3	F
C388	3	G
C389	4	F
C390	4	G
C393	1	F
C394	2	G
C395	2	F
C396	3	G
C397	3	F
C398	3	G
C401	6	B
C402	5	B
C403	1	C
C404	1	C
C409	4	A
C410	2	A
C411	2	A
C412	1	B
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C474	6	G
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C476	4	G
C477	6	J
C478	5	G
C481	10	I
C482	10	I
C483	6	I
C491	10	J
C501	9	E
C507	9	E
C508	9	E
C514	10	E
C601	7	H
C602	8	H
C603	7	H
C604	7	I
C605	7	G
C606	7	I
C607	7	G
C608	7	J
C609	7	G
C610	7	J
C611	6	H
C612	7	J
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C624	8	F
C625	7	G
C626	7	G
C627	7	F
C628	7	F
C631	7	J
C632	7	J
C633	7	I
C634	7	I
C641	8	H
C642	8	H
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C645	9	J
C646	9	J
C647	8	J
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C650	9	J
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C653	8	I
C655	6	H
C656	6	G
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C892	10	I
C893	10	G
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C961	4	J
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C963	4	J
CN301	7	I
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CN303	10	F
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CN402	10	C
CN403	10	A
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CN411A	2	D
CN412	8	E
CN413	5	I
CN511	8	E
CN601	10	D
CN611	4	H
CN811	6	A
D331	3	J
D332	3	J
D401	5	A
D402	5	A
D403	5	A
D404	1	C
D411	1	B
D412	1	B
D413	1	B
D414	1	D
D421	8	A
D422	8	A
D423	3	B
D424	2	B
D425	10	C
D426	10	C
D427	8	B
D428	8	B
D429	8	B
D430	8	A
D431	8	A
D432	8	B
D433	8	B
D451	1	A
D471	5	G
D472	6	G
D474	6	G
D475	6	G
D476	4	G
D477	6	J
D851	6	G
D852	5	G
D1401	2	A
FW851	4	G
FW891	10	G
FW961	4	J
IC301	1	I
IC321	2	H
IC331	3	G
IC341	2	J
IC361	5	G
IC401	4	B
IC402	1	B
IC403	1	C
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IC601	7	H
IC641	9	I
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J301	1	F
J302	2	F
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J305	3	F
J481	10	I
J491	10	J
J961	4	I
L661	8	F
Q331	3	H
Q332	3	H
Q351	4	H
Q352	4	H
Q361	4	G
Q362	4	G
Q371	5	I
Q401	1	C
Q402	6	B
Q403	6	B
Q404	6	C
Q405	6	C
Q411	1	C
Q412	1	C
Q451	1	A
Q452	1	A
Q507	9	E
Q508	9	E
Q509	9	E
Q661	8	G
Q662	8	F
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Q664	8	G
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Q852	6	G
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R306	1	H
R307	1	H
R308	1	H
R309	1	I
R310	1	I
R311	1	J
R312	1	J
R313	2	J
R314	2	J
R325	3	I
R331	3	J
R332	3	J
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R390	4	G
R393	1	G
R394	2	G
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R401	2	A
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R409	5	A
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R414	1	C
R416	1	C
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R642	8	I
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R671	8	G
R672	8	G
R675	10	F
R676	9	F
R683	9	F
R893	10	G
R894	10	H
RA401	6	B
RA402	4	A
RA403	3	A
S401	2	D
S402	4	D
S403	2	E
S404	4	E
S405	9	B
S406	10	B
S407	10	C
S408	8	C
S409	4	C
S410	4	C
S411	3	C
S412	3	C
S413	1	E
S414	5	C
S415	2	C
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S417	7	E
S418	7	D
S419	6	E
S420	5	E
S421	5	E
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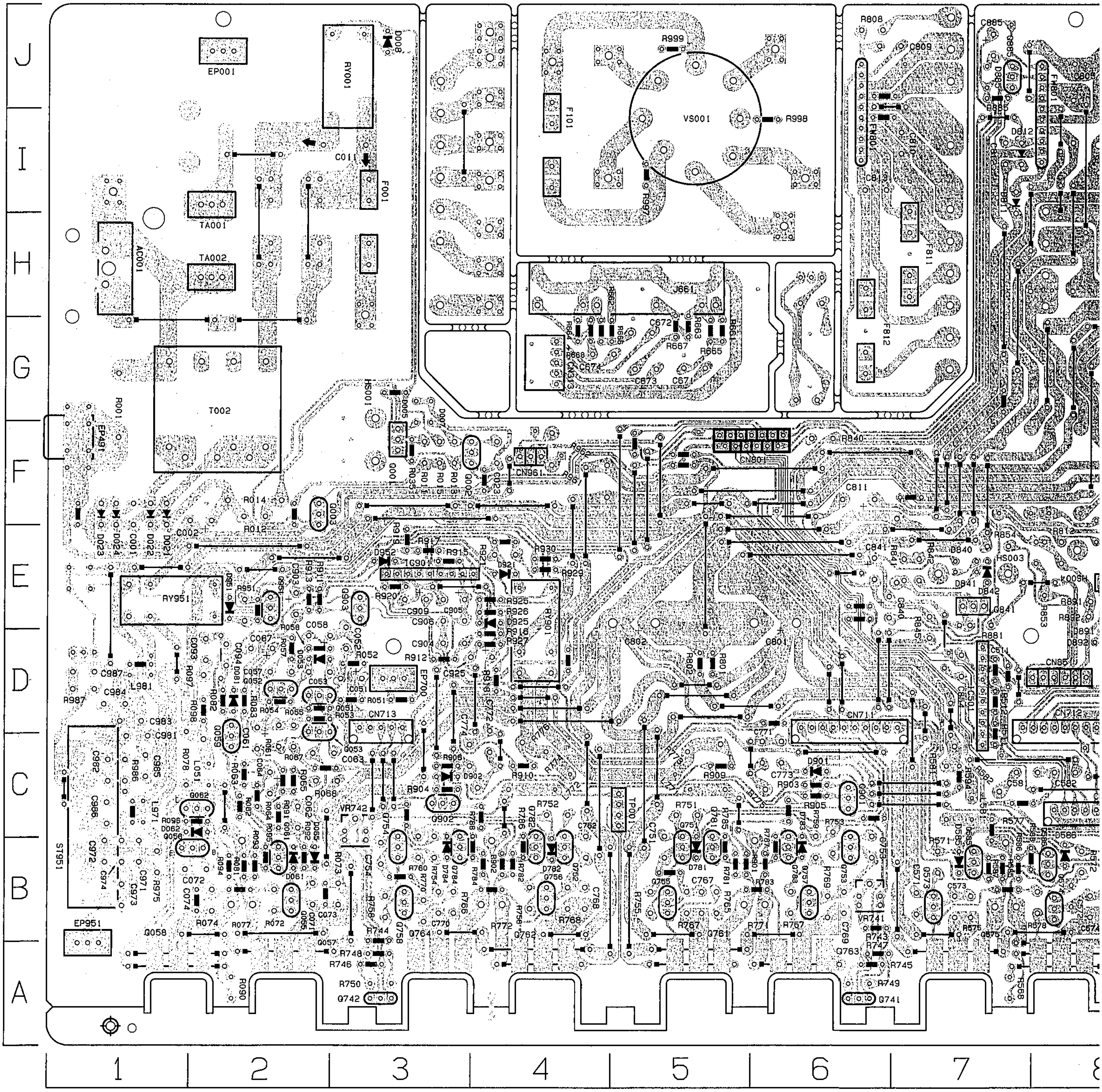
S424	6	E
X401	5	C
X641	9	I

Power Amplifier P.C. Board (ENH-288)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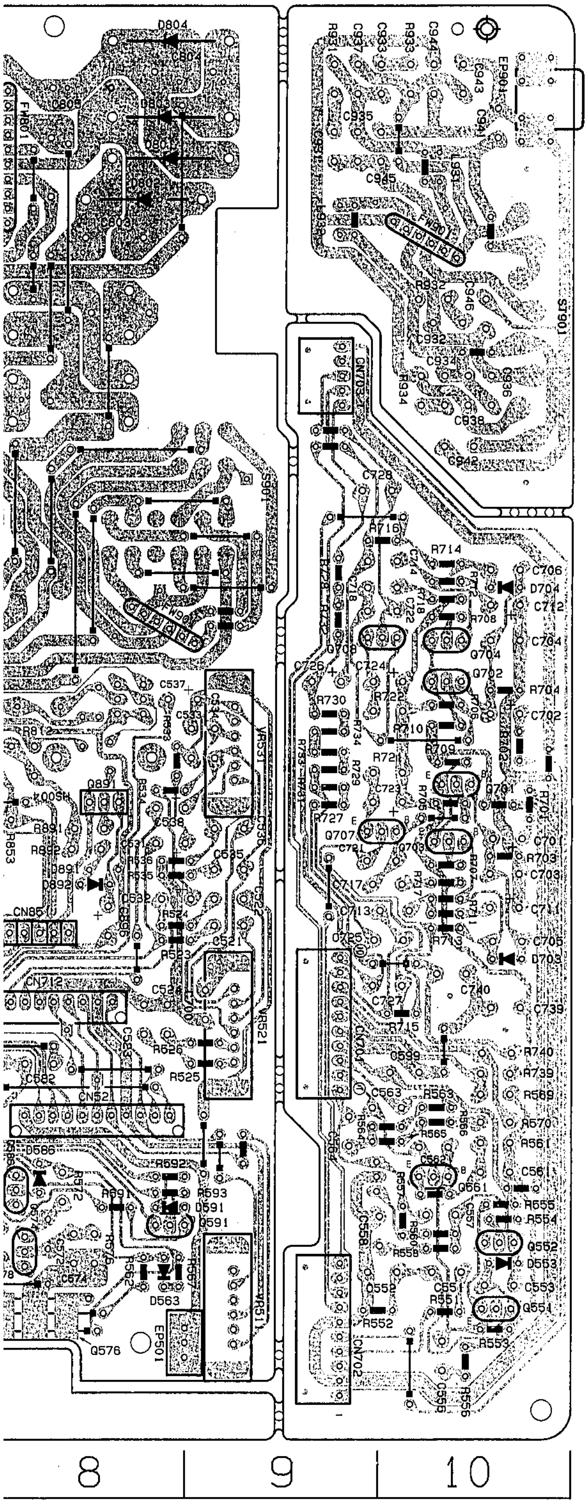

Location List(ENH288)

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C002	2	F
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C023	4	F
C051	3	D
C052	3	E
C053	2	D
C057	2	D
C058	2	D
C061	2	D
C062	2	C
C063	3	C
C064	2	C
C067	2	D
C071	2	B
C072	2	B
C073	2	B
C074	2	B
C093	2	D
C094	2	D
C511	7	D
C521	9	D
C522	9	D
C523	8	C
C524	8	C
C531	8	E
C532	9	D
C533	9	E
C534	9	E
C535	9	D
C536	9	E
C537	9	F
C538	8	E
C551	10	B
C552	10	B
C553	10	B
C556	10	A
C557	10	B
C558	10	B
C561	10	B
C562	10	C
C563	9	C
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C571	7	B
C572	8	B
C573	7	B
C574	8	B
C581	7	C
C582	8	C
C599	10	C
C671	5	G
C672	5	G
C673	5	G
C674	5	G
C700	9	C
C701	10	E
C702	10	F
C703	10	D
C704	10	F
C705	10	D
C706	10	G
C711	10	D
C712	10	F
C713	10	D
C714	10	G
C717	10	D
C718	10	F
C721	10	E
C722	10	F
C723	10	E
C724	10	F
C725	10	D
C726	9	F
C727	10	D

Symbol	X	Y
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C739	10	D
C740	10	D
C751	5	C
C752	4	B
C753	6	C
C754	3	B
C767	5	B
C768	4	B
C769	6	B
C770	3	B
C771	6	C
C772	4	C
C773	6	C
C774	3	C
C801	6	E
C802	5	E
C803	8	I
C803B	8	I
C804	8	J
C804B	9	J
C805	8	J
C805B	8	J
C806	8	J
C807	8	H
C808	8	H
C809	7	J
C810	7	I
C811	6	F
C812	7	I
C813	6	I
C840	6	E
C841	6	E
C854	7	D
C885	7	J
C896	8	D
C903	2	E
C904	3	D
C905	3	E
C906	3	E
C909	3	E
C925	4	D
C931	9	I
C932	10	H
C933	9	J
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C985	1	C
C986	1	C
C987	1	D
CN313	4	G
CN521	8	C
CN701	9	D
CN702	9	B
CN703	9	H

Symbol	X	Y
CN711	6	D
CN712	7	D
CN713	3	D
CN801	5	F
CN851	8	D
CN891	9	B
CN941	1	D
CN951	6	H
CN961	4	F
C04	1	D
D005	3	G
D007	3	G
D008	3	J
D021	1	F
D022	1	F
D023	1	F
D024	1	F
D053	2	D
D061	2	B
D062	2	C
D065	2	B
D081	2	D
D553	10	B
D563	8	B
D585	7	B
D586	8	B
D591	8	B
D703	10	D
D704	10	F
D781	5	C
D782	4	B
D783	6	B
D784	3	B
D801	9	I
D802	9	I
D803	9	J
D804	9	J
D805	8	H
D806	8	H
D807	8	I
D808	8	H
D811	7	I
D812	7	I
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D841	7	E
D842	7	E
D885	7	J
D891	8	D
D892	8	D
D901	6	C
D902	3	C
D921	4	E
D925	4	E
D951	2	E
D952	3	E
F001	3	I
F002	2	I
F003	2	I
F101	4	J
F811	7	I
F812	6	H
FW801A	6	J
FW801B	8	J
FW901A	10	I
FW901B	9	F
IC501	7	C
IC901	4	E
J001	1	H
J661	5	H
J951	6	G
L051	2	C
L581	7	C

Symbol	X	Y
L771	5	C
L772	4	C
L931	10	I
L932	9	I
L971	1	C
L981	1	D
Q001	3	F
Q002	3	F
Q003	2	F
Q051	2	D
Q052	2	D
Q053	2	D
Q055	2	B
Q056	2	B
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Q058	1	A
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Q061	2	B
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Q551	10	A
Q552	10	B
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Q573	7	B
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Q586	8	B
Q591	8	B
Q701	10	E
Q702	10	F
Q703	10	E
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Q761	5	A
Q762	4	A
Q763	6	A
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Q781	5	C
Q782	4	C
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Q801	8	F
Q802	8	F
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Q885	7	J
Q891	8	E
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Q902	3	C
Q903	3	E
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Symbol	X	Y
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R058	2	D
R061	2	C
R062	2	C
R063	2	C
R064	2	C
R065	2	C
R067	2	D
R068	2	C
R072	2	B
R073	3	B
R074	2	B
R077	2	B
R078	1	C
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R082	2	D
R083	2	D
R090	2	A
R091	2	C
R092	2	B
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R095	2	B
R096	2	C
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R098	2	D
R511	7	C
R512	7	D
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R525	9	C
R526	9	C
R533	8	E
R534	8	E
R535	9	D
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R552	10	A
R553	10	A
R554	10	B
R555	10	B
R556	10	A
R557	10	B
R558	10	B
R560	10	B
R561	10	C
R562	8	B
R563	10	C
R564	10	C
R565	10	C
R566	10	C
R567	8	B
R568	7	A
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R570	10	C
R571	7	B
R572	8	B
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R578	8	B
R581	7	C
R582	7	C
R585	7	B
R586	7	B
R587	7	B
R588	7	B
R591	8	B
R592	8	B
R593	8	B
R594	7	C
R661	5	G
R662	4	G
R663	5	H

Symbol	X	Y
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R665	5	G
R666	4	G
R667	5	G
R668	4	G
R701	10	E
R702	10	E
R703	10	E
R704	10	F
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R706	10	F
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R708	10	F
R709	10	E
R710	10	E
R711	10	D
R712	10	F
R713	10	D
R714	10	G
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R716	10	G
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R746	3	A
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R748	3	A
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R753	6	C
R754	3	B
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R760	3	C
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R768	4	B
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R770	3	B
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R775	6	C
R776	4	C
R781	5	B
R782	4	B
R783	6	B
R784	4	B
R785	5	B
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R787	6	B
R788	4	B
R801	5	D

Symbol	X	Y
R802	5	D
R808	6	J
R812	8	E
R820	8	E
R840	6	F
R841	7	E
R841B	7	F
R842	7	E
R845	7	D
R853	8	E
R854	7	E
R881	7	E
R885	7	J
R891	8	E
R892	8	E
R901	5	B
R902	4	B
R903	6	C
R904	3	C
R905	6	C
R906	3	C
R909	5	C
R910	4	C
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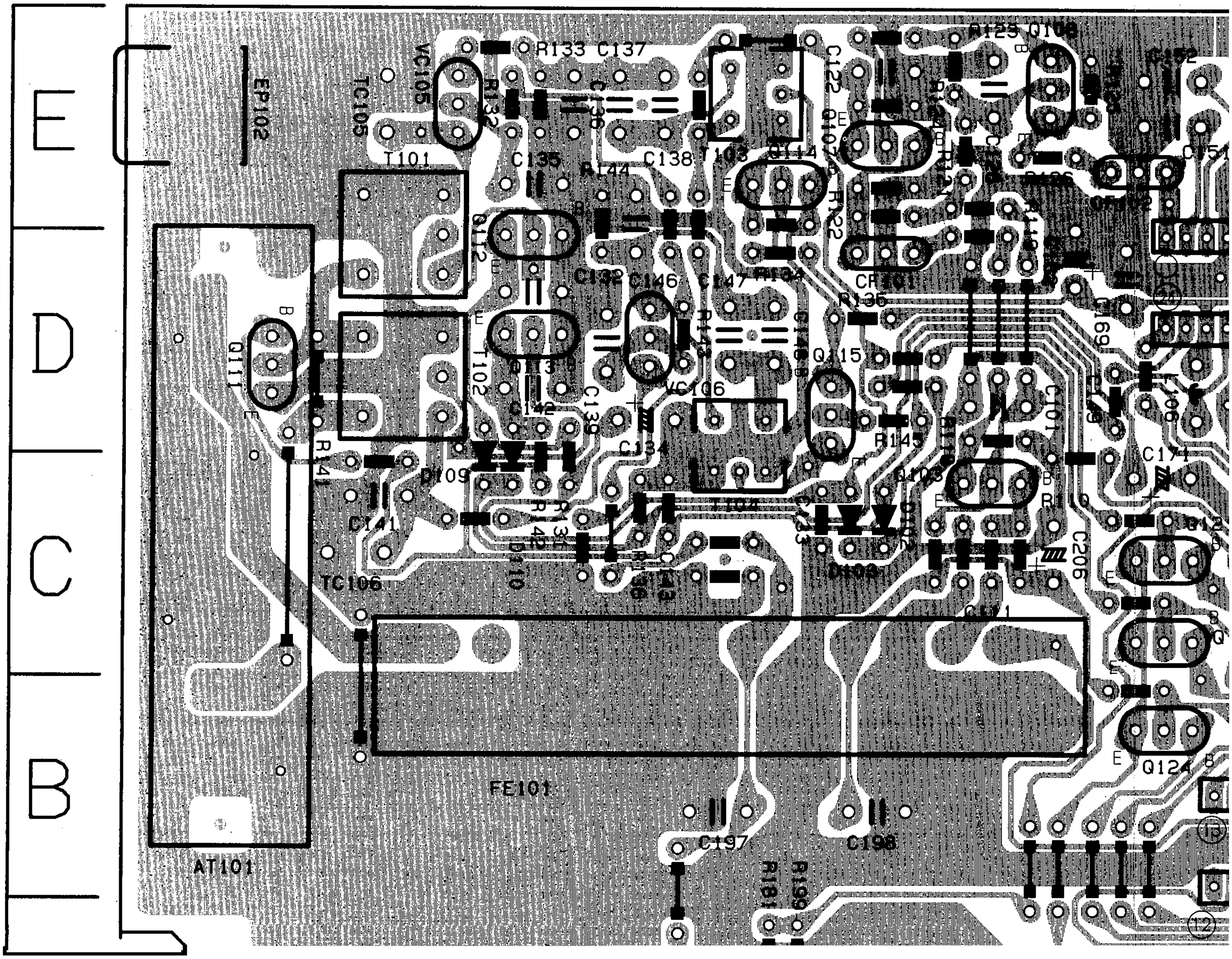
R912	3	D
R913	2	E
R915	3	E
R916	4	D
R917	3	E
R918	4	D
R919	3	E
R920	3	E
R921	4	E
R925	4	E
R926	4	E
R927	4	D
R929	4	E
R930	4	E
R931	9	J
R932	10	H
R933	10	J
R934	10	H
R951	2	E
R955	1	E
R956	1	E
R961	4	F
R962	4	F
R975	1	B
R986	1	C
R987	1	D
R997	5	I
R998	6	I
R999	5	J
RY001	2	J
RY801	8	F
RY802	7	F
RY901	4	E
RY951	2	E
S001	2	I
S901A	9	G
S901B	9	G
ST901	10	I
ST951	1	C
T002	1	G
TA001	2	I
TA002	2	H
TP001	5	C

■ Tuner P.C. Board (ENA-172)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R126
CF201
R135
C169
T101
Q112
C132
C146
C147
R134
T102
Q113
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C139
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Q103
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R136
C143
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AT101
C197
C198
R181
R199
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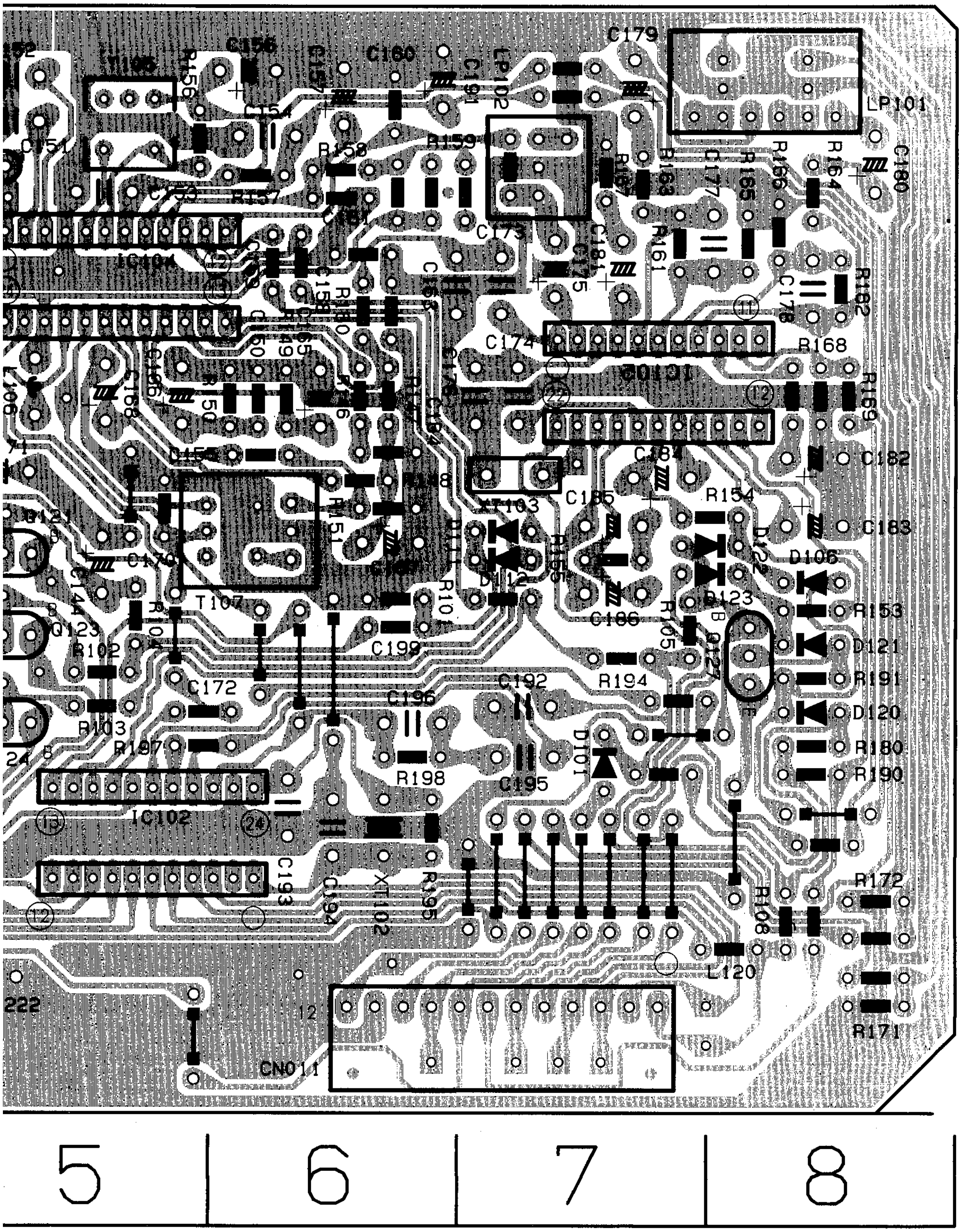
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C154
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R163
C177
R165
R166
R164
C153
R157
C181
C173
C176
R161
C175
IC104
C152
C158
R160
C178
R182
C150
R149
R165
C163
C174
R168
IC105
L106
R150
R146
R147
C194
R169
C155
C184
C182
R148
R151
C185
R154
C183
Q121
XT103
D111
R155
D122
D106
C170
C14
T107
D112
R101
R123
R153
Q123
R102
R104
C186
R105
Q127
D121
C198
C192
R194
R191
C172
C196
D120
R103
R197
D101
R180
R198
C195
R190
IC102
C193
C194
XT102
R195
R108
R172
L120
222
CN011
R171
12
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24
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Location List
(ENA-172)

Symbol	X	Y
C101	4	D
C111	4	C
C122	3	E
C126	4	E
C132	2	D
C133	3	C
C134	2	D
C135	2	E
C136	2	E
C137	2	E
C138	3	E
C139	2	D
C141	2	C
C142	2	D
C143	3	C
C144	5	C
C146	3	D
C147	3	D
C148	3	D
C149	4	D
C150	6	D
C151	5	E
C152	5	E
C153	5	E
C154	6	E
C155	6	C
C156	6	E
C157	6	E
C158	6	I
C159	6	D
C160	6	J
C161	6	J
C162	4	D
C163	6	I
C164	6	H
C165	6	D
C166	5	D
C167	6	H
C168	5	I
C169	5	I
C170	5	H
C171	5	C
C172	6	G
C173	7	I
C174	7	I
C175	7	I
C176	7	D
C177	8	J
C178	8	D
C179	7	J
C180	8	J
C181	7	I
C182	8	C
C183	8	H
C184	7	H
C185	7	H
C186	7	H
C191	6	E
C192	7	B
C193	6	G
C194	6	G
C195	7	B
C196	6	G
C197	3	G
C198	3	B
C199	6	C
C206	4	H
C222	4	F
C229	3	A
CF101	4	D
CF102	5	J
CN011	6	F
D101	7	B
D102	4	H
D103	3	C
D106	8	C
D109	2	D
D110	2	D
D111	7	H
D112	7	C
D120	8	G
D121	8	C
D122	7	H
D123	7	C
FE101	2	C
IC102	6	B
IC104	5	D
IC105	7	D
L106	5	D
L120	8	A
LP101	8	E
LP102	7	E
Q103	4	C
Q107	4	E
Q108	4	J
Q111	1	D
Q112	2	I
Q113	2	D
Q114	3	E
Q115	3	D
Q121	5	C
Q123	5	C
Q124	5	B
Q127	8	C
R101	6	H
R102	5	G
R103	5	B
R104	5	H
R105	7	C
R108	8	A
R109	4	F
R110	4	C
R118	4	D
R119	4	D
R121	3	E
R122	4	E
R123	4	E
R124	3	E
R125	4	E
R126	4	E
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R133	2	E
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R135	4	D
R136	3	C
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R142	2	D
R143	3	D
R144	2	E
R145	3	D
R146	6	D
R147	6	D
R148	6	C
R149	6	D
R150	6	D
R151	6	C
R153	8	C
R154	8	C
R155	7	C
R156	5	E
R157	6	E
R158	6	E
R159	6	E
R160	6	I
R161	7	E
R162	8	D
R163	7	E
R164	8	E
R165	8	E
R166	8	E
R167	7	E
R168	8	D
R169	8	D
R171	8	A
R172	8	A
R180	8	B
R181	3	A
R190	8	B
R191	8	B
R194	7	C
R195	6	B
R197	6	B
R198	6	B
R199	3	A
T101	1	D
T102	1	D
T103	3	E
T104	3	D
T105	5	E
T107	5	C
TC105	2	E
TC106	1	C
XT102	6	B
XT103	7	C

PARTS LIST

* All printed boards and its assemblies are not available as serves parts.

The marks for designated areas

C・・・Canada　　J・・・the U.S.A

No marks indicates all areas.

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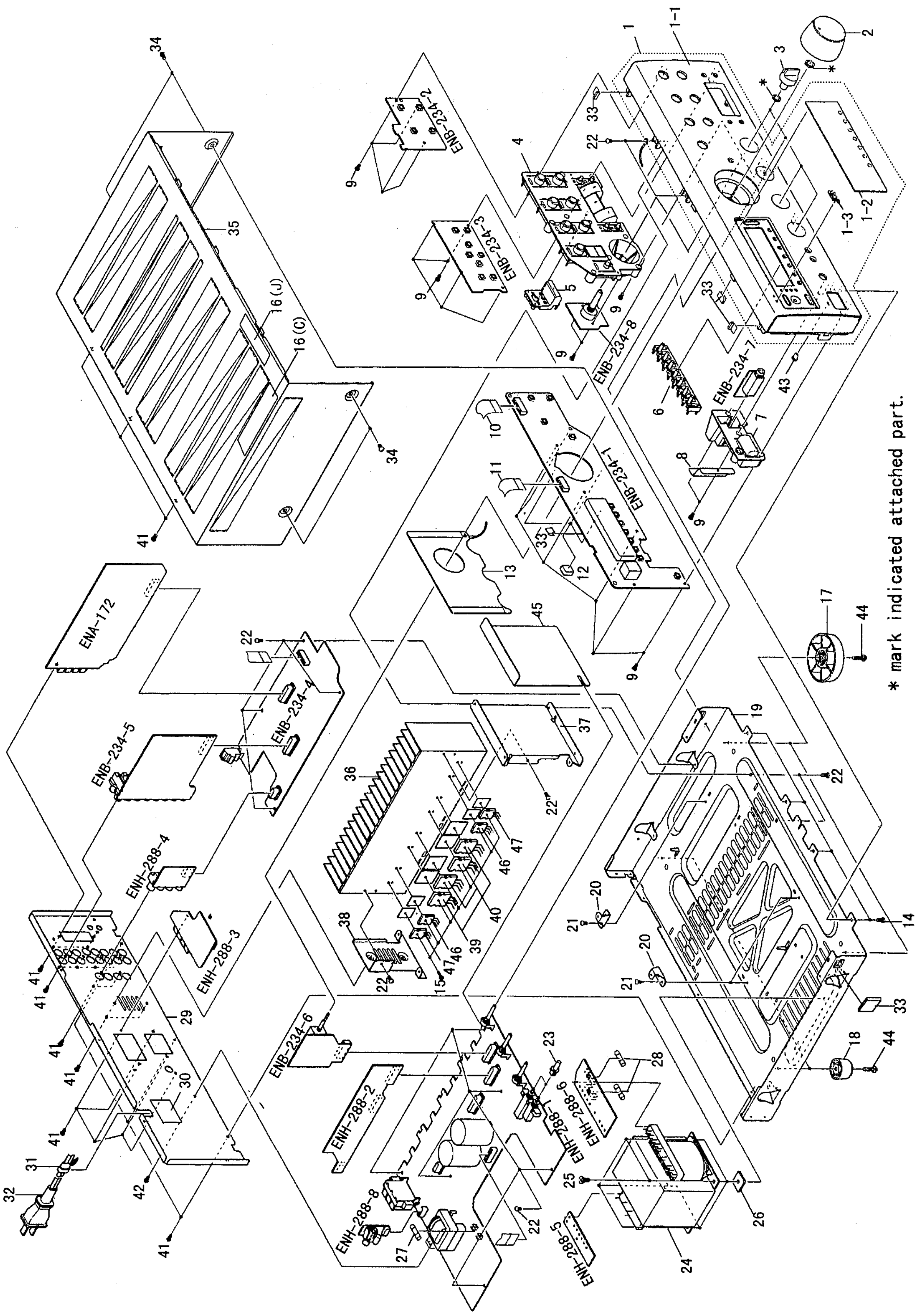
General Exploded View and Parts List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16(J)
16(C)
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* mark indicated attached part.

Parts List

Block No. M1MM

⚠	Item	Parts Number	Parts Name	Q'ty	Description	Area
	1	EFP-RX662VBKJ(S	FRONT PANEL ASS	1		
	1-1	E103158-009SM	FRONT PANEL	1		
	1-2	E309419-005SM	WINDOW SCREEN	1		
	1-3	VJD5429-001	JVC MARK	1		
	2	E309465-003SM	VOLUME KNOB	1		
	3	E310213-001SM	BALANCE KNOB	4		
	4	E208859-002SM	PUSH BUTTON	1	SOURCE	
	5	E409170-001SM	PUSH BUTTON	1		
	6	E309418-002SM	PUSH BUTTON	1	TUNER	
	7	E208860-001SM	POWER BUTTON	1	POWER	
	8	E409255-001SM	PROTECT COVER	1		
	9	SDSF2608Z	SCREW	18		
	10	VWF1217-25TTB	FLAT WIRE	1	FW403	
	11	VWF1213-25TTB	FLAT WIRE	1	FW801	
	12	E306805-122	SPACER	3		
	13	E309955-002	SHIELD PLATE	1		
	14	SDSF3008M	WOOD SCREW	4		
	15	E73525-003	SCREW	8		
	16	E409394-001	CAUTION LABEL	1		J
	16	E409396-001	CAUTION LABEL	1		C
	17	VJF4039-00MSM	FOOT ASSY	2	FRONT	
	18	E47227-036	FOOT	2	REAR	
	19	E103157-001SM	CHASSIS BASE	1		
	20	E68587-223SM	P.W.BOARD BRACKET	3		
	21	SBST3006CC	TAPPING SCREW	3		
	22	SBSG3008CC	TAPPING SCREW	16		
	23	E407321-002SM	PUSH BUTTON	2		
⚠	24	QQT0154-001	POWER TRANSFORMER	1		
	25	E65389-006	SPECIAL SCREW	4		
	26	E406309-002	SPACER	4		
⚠	27	QMF0007-6R3J1	FUSE	1	F001	
⚠	28	QMF0007-2R0J1	FUSE	2	F811/F812	
	29	E208855-032SM	REAR PANEL	1		
	30	E67199-001	CAUTION LABEL	1		J
	30	E65507-001	CAUTION LABEL	1		C
⚠	31	QHS3771-108	CORD STOPPER	1		
⚠	32	QMP1D00-200H	POWER CORD	1		
	33	E306805-110	SPACER	5		
	34	E406308-001	SPECIAL SCREW	4		
	35	E208858-002	METAL COVER	1		
	36	E309840-002SM	HEAT SINK	1		
	37	E208857-001SM	HEAT SINK BRACKET	1	FRONT SIDE	
	38	E309841-001SM	HEAT SINK BRACKET	1	REAR SIDE	
	39	2SD2155LB(R,O)	SI.TRANSISTOR	2	Q761/Q762	
	40	2SB1429LB(R,O)	SI.TRANSISTOR	2	Q763/Q764	
	41	E73273-003	SPECIAL SCREW	24		
	42	SBST3006M	TAPPING SCREW	1		
	43	FSJD4001-002	INDICATOR LENS	1	POWER	
	44	SBST3010Z	TAPPING SCREW	4		
	45	E309957-001	PROTECTOR COVER	1		
	46	2SC4278LD(D,E)	SI.TRANSISTOR	2	Q057/Q575	
	47	2SA1633LD(D,E)	SI.TRANSISTOR	2	Q058/Q576	
	-	E408632-002	RATING LABEL	1		C

Electrical Parts List (ENB-234)

⚠	Item	Parts Number	Description	Area
		I.C.S		
	IC301	NJM4580DD	I.C(MONO-ANALOG)	
	IC321	TC9164AN	I.C(DIGI-MOS)	
	IC331	UPD4066BC	I.C(DIGI-MOS)	
	IC341	BA15218N	I.C(MONO-ANALOG)	
	IC361	BA15218N	I.C(MONO-ANALOG)	
	IC401	MN171202K8F	I.C(MICRO-COMPUTER)	
	IC402	SPS-420-1	INFRARED DETECT UNIT	
	IC403	PST600E-T	I.C(MONO-ANALOG)	
	IC475	NJM79L12A	I.C(MONO-ANALOG)	
	IC601	LA2785	I.C(MONO-ANALOG)	
	IC641	LV1011	I.C(MONO-ANALOG)	
	IC661	NJM2246D	I.C(MONO-ANALOG)	
		DIODES		
	D331	MTZ8.2JC	ZENER DIODE	
	D332	MTZ8.2JC	ZENER DIODE	
	D401	1SS133	SI.DIODE	
	D402	1SS133	SI.DIODE	
	D403	1SS133	SI.DIODE	
	D404	1SS133	SI.DIODE	
	D411	SLR-342DCTE7	L.E.D.	
	D412	SLR-342DCTE7	L.E.D.	
	D413	SLR-342DCTE7	L.E.D.	
	D414	SLR-56VCTB7	L.E.D.	
	D421	1SS133	SI.DIODE	
	D422	1SS133	SI.DIODE	
	D423	1SS133	SI.DIODE	
	D424	1SS133	SI.DIODE	
	D425	1SS133	SI.DIODE	
	D426	1SS133	SI.DIODE	
	D451	1SS133	SI.DIODE	
	D471	MTZ9.1JC	ZENER DIODE	
	D474	MTZ12JC	ZENER DIODE	
	D851	MTZ16JC	ZENER DIODE	
	D852	1SS133	SI.DIODE	
		TRANSISTORS		
	Q331	DTA144ES	DIGITAL TRANSISTOR	
	Q332	DTC144ES	DIGITAL TRANSISTOR	
	Q351	2SC2001(L,K)	SI.TRANSISTOR	
	Q352	2SC2001(L,K)	SI.TRANSISTOR	
	Q361	2SC2001(L,K)	SI.TRANSISTOR	
	Q362	2SC2001(L,K)	SI.TRANSISTOR	
	Q371	DTA144ES	DIGITAL TRANSISTOR	
	Q401	DTC114YS	DIGITAL TRANSISTOR	
	Q402	DTC114YS	DIGITAL TRANSISTOR	
	Q403	DTC114YS	DIGITAL TRANSISTOR	
	Q404	DTC114YS	DIGITAL TRANSISTOR	
	Q405	DTC114YS	DIGITAL TRANSISTOR	
	Q411	DTC114YS	DIGITAL TRANSISTOR	
	Q412	DTC114YS	DIGITAL TRANSISTOR	
	Q451	DTC114TS	DIGITAL TRANSISTOR	
	Q452	DTC144WS	DIGITAL TRANSISTOR	
	Q507	2SC2001(L,K)	SI.TRANSISTOR	
	Q508	2SC2001(L,K)	SI.TRANSISTOR	
	Q509	DTA144ES	DIGITAL TRANSISTOR	
	Q661	2SC458(C,D)	SI.TRANSISTOR	
	Q662	2SC458(C,D)	SI.TRANSISTOR	
	Q663	2SA933S(RS)	SI.TRANSISTOR	
	Q664	2SA933S(RS)	SI.TRANSISTOR	
	Q681	DTC143ES	DIGITAL TRANSISTOR	
	Q852	2SD2061(F,G)	SI.TRANSISTOR	
		CAPACITORS		
	C300	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C301	QETB1HM-475E	4.7MF 50V E.CAP.	
	C302	QETB1HM-475E	4.7MF 50V E.CAP.	
	C303	QCBB1HK-101Y	100PF 50V CER.CAP.	
	C304	QCBB1HK-101Y	100PF 50V CER.CAP.	
	C305	QFN81HK-182	1800PF 50V METAL.MYLAR	
	C306	QFN81HK-182	1800PF 50V METAL.MYLAR	
	C307	QFN31HK-682Z	6800PF 50V MYLAR CAP.	
	C308	QFN31HK-682Z	6800PF 50V MYLAR CAP.	
	C309	QCBB1HK-101Y	100PF 50V CER.CAP.	
	C310	QCBB1HK-101Y	100PF 50V CER.CAP.	
	C311	QETB1HM-475E	4.7MF 50V E.CAP.	
	C312	QETB1HM-475E	4.7MF 50V E.CAP.	
	C313	QETB1AM-107	100MF 10V AL E.CAP.	
	C314	QETB1AM-107	100MF 10V AL E.CAP.	
	C315	QETB1CM-476	47MF 16V AL E.CAP.	
	C316	QETB1CM-476	47MF 16V AL E.CAP.	
	C319	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C320	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C323	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C324	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C325	QCBB1HK-221Y	220PF 50V CER.CAP.	
	C331	QETB1EM-226N	22MF 25V E.CAP.	
	C332	QETB1EM-226N	22MF 25V E.CAP.	
	C339	QETB1HM-475E	4.7MF 50V E.CAP.	
	C341	QETB1HM-106	10MF 50V E.CAP.	
	C342	QETB1HM-106	10MF 50V E.CAP.	
	C351	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C352	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C363	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C364	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C375	QETB1HM-475E	4.7MF 50V E.CAP.	
	C381	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C382	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C385	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C386	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C387	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C388	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C389	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C390	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C393	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C394	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C395	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C396	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C397	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C398	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C401	QETB1AM-227	220MF 10V E.CAP.	
	C402	QCZ0202-155	1.5MF 25V CER.RES.	
	C403	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C404	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C409	QEAD0HZ-10AZM	AL E.CAP.	
	C410	QETB1VM-227	220MF 35V AL E.CAP.	
	C451	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C474	QETB1EM-107	100MF 25V AL E.CAP.	
	C475	QETB1EM-107	100MF 25V AL E.CAP.	
	C476	QEK51HM-334G	0.33MF 50V AL E.CAP.	
	C478	QETB1HM-105	1MF 50V AL E.CAP.	
	C483	QCVB1CM-103Y	0.01MF 16V CER.CAP.	
	C491	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C501	QETB1HM-226E	22MF 50V E.CAP.	
	C507	QFN31HJ-333Z	0.033MF 50V MYLAR CAP.	
	C508	QFN31HJ-333Z	0.033MF 50V MYLAR CAP.	
	C514	QCF21HP-473A	0.047MF 50V CER.CAP.	
	C601	QETB1HM-105	1MF 50V AL E.CAP.	
	C602	QETB1HM-105	1MF 50V AL E.CAP.	
	C603	QFLB1HJ-104	0.1MF 50V MYLAR CAP.	
	C604	QFLB1HJ-104	0.1MF 50V MYLAR CAP.	
	C605	QFLB1HJ-104	0.1MF 50V MYLAR CAP.	

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⚠	Item	Parts Number	Description	Area
	C606	QFLB1HJ-104	0.1MF 50V MYLAR CAP.	
	C607	QETB1HM-474	0.47MF 50V E.CAP.	
	C608	QETB1HM-474	0.47MF 50V E.CAP.	
	C609	QETB1HM-475E	4.7MF 50V E.CAP.	
	C610	QETB1HM-475E	4.7MF 50V E.CAP.	
	C611	QETB1HM-474	0.47MF 50V E.CAP.	
	C612	QETB1HM-474	0.47MF 50V E.CAP.	
	C613	QETB1HM-475E	4.7MF 50V E.CAP.	
	C614	QETB1HM-475E	4.7MF 50V E.CAP.	
	C615	QFV81HJ-154	0.15MF 50V THIN FILM CAP.	
	C616	QFV81HJ-154	0.15MF 50V THIN FILM CAP.	
	C617	QETB1HM-335	3.3MF 50V AL E.CAP.	
	C618	QETB1HM-335	3.3MF 50V AL E.CAP.	
	C619	QFV81HJ-154	0.15MF 50V THIN FILM CAP.	
	C620	QFV81HJ-154	0.15MF 50V THIN FILM CAP.	
	C621	QFN81HJ-223	0.022MF 50V METAL.MYLAR	
	C622	QFN31HJ-473ZN	0.047MF 50V MYLAR CAP.	
	C623	QETB1EM-227	220MF 25V AL E.CAP.	
	C624	QETB1EM-106	10MF 25V AL E.CAP.	
	C625	QETB1EM-106	10MF 25V AL E.CAP.	
	C626	QETB1EM-106	10MF 25V AL E.CAP.	
	C627	QETB1EM-106	10MF 25V AL E.CAP.	
	C628	QETB1EM-227	220MF 25V AL E.CAP.	
	C631	QETB1EM-476	47MF 25V AL E.CAP.	
	C632	QFV71HJ-474ZM	0.47MF 50V THIN FILM CAP.	
	C633	QCS31HJ-681Z	680PF 50V CER.CAP.	
	C634	QETB1EM-227	220MF 25V AL E.CAP.	
	C641	QETB1EM-106	10MF 25V AL E.CAP.	
	C642	QETB1EM-227	220MF 25V AL E.CAP.	
	C643	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C645	QFN31HJ-333Z	0.033MF 50V MYLAR CAP.	
	C646	QFN31HJ-152Z	1500PF 50V MYLAR CAP.	
	C647	QFN31HJ-333Z	0.033MF 50V MYLAR CAP.	
	C648	QETB1HM-105	1MF 50V AL E.CAP.	
	C650	QETB1EM-227	220MF 25V AL E.CAP.	
	C651	QCSB1HJ-330Y	33PF 50V CER.CAP.	
	C652	QCSB1HJ-330Y	33PF 50V CER.CAP.	
	C653	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C655	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C656	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C661	QETB1CM-107	100MF 16V AL E.CAP.	
	C662	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C663	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C853	QETB1EM-107	100MF 25V AL E.CAP.	
	C891	QFV81HJ-103	0.01MF 50V THIN FILM CAP.	
	C892	QFV81HJ-333	0.033MF 50V THIN FILM CAP.	
	C893	QCBB1HK-101Y	100PF 50V CER.CAP.	
	C894	QCBB1HK-101Y	100PF 50V CER.CAP.	
	C895	QER51HM-105G	1MF 50V AL E.CAP.	
	C961	QCBB1HK-331Y	330PF 50V CER.CAP.	
	C962	QCBB1HK-331Y	330PF 50V CER.CAP.	
		RESISTORS		
	R301	QRD161J-222	2.2K 1/6W CARBON RES.	
	R302	QRD161J-222	2.2K 1/6W CARBON RES.	
	R303	QRD161J-473	47K 1/6W CARBON RES.	
	R304	QRD161J-473	47K 1/6W CARBON RES.	
	R305	QRD161J-621	620 1/6W CARBON RES.	
	R306	QRD161J-621	620 1/6W CARBON RES.	
	R307	QRD161J-393	39K 1/6W CARBON RES.	
	R308	QRD161J-393	39K 1/6W CARBON RES.	
	R309	QRD161J-474	470K 1/6W CARBON RES.	
	R310	QRD161J-474	470K 1/6W CARBON RES.	
	R311	QRD161J-104	100K 1/6W CARBON RES.	
	R312	QRD161J-104	100K 1/6W CARBON RES.	
	R313	QRD161J-331	330 1/6W CARBON RES.	
	R314	QRD161J-331	330 1/6W CARBON RES.	
	R325	QRD161J-102	1K 1/6W CARBON RES.	
	R331	QRD161J-821	820 1/6W CARBON RES.	
	R332	QRD161J-821	820 1/6W CARBON RES.	
	R333	QRD161J-202	2K 1/6W CARBON RES.	
	R334	QRD161J-103	10K 1/6W CARBON RES.	
	R341	QRD161J-104	100K 1/6W CARBON RES.	
	R342	QRD161J-104	100K 1/6W CARBON RES.	
	R343	QRD161J-104	100K 1/6W CARBON RES.	
	R344	QRD161J-104	100K 1/6W CARBON RES.	
	R351	QRD161J-473	47K 1/6W CARBON RES.	
	R352	QRD161J-473	47K 1/6W CARBON RES.	
	R353	QRD161J-104	100K 1/6W CARBON RES.	
	R354	QRD161J-104	100K 1/6W CARBON RES.	
	R355	QRD161J-102	1K 1/6W CARBON RES.	
	R356	QRD161J-102	1K 1/6W CARBON RES.	
	R357	QRD161J-103	10K 1/6W CARBON RES.	
	R358	QRD161J-103	10K 1/6W CARBON RES.	
	R361	QRD161J-104	100K 1/6W CARBON RES.	
	R362	QRD161J-104	100K 1/6W CARBON RES.	
	R363	QRD161J-243	24K 1/6W CARBON RES.	
	R364	QRD161J-243	24K 1/6W CARBON RES.	
	R365	QRD161J-103	10K 1/6W CARBON RES.	
	R366	QRD161J-103	10K 1/6W CARBON RES.	
	R369	QRD161J-104	100K 1/6W CARBON RES.	
	R370	QRD161J-104	100K 1/6W CARBON RES.	
	R371	QRD161J-102	1K 1/6W CARBON RES.	
	R372	QRD161J-102	1K 1/6W CARBON RES.	
	R373	QRD161J-222	2.2K 1/6W CARBON RES.	
	R374	QRD161J-222	2.2K 1/6W CARBON RES.	
	R375	QRD161J-102	1K 1/6W CARBON RES.	
	R381	QRD161J-471	470 1/6W CARBON RES.	
	R382	QRD161J-471	470 1/6W CARBON RES.	
	R385	QRD161J-471	470 1/6W CARBON RES.	
	R386	QRD161J-471	470 1/6W CARBON RES.	
	R387	QRD161J-471	470 1/6W CARBON RES.	
	R388	QRD161J-471	470 1/6W CARBON RES.	
	R389	QRD161J-471	470 1/6W CARBON RES.	
	R390	QRD161J-471	470 1/6W CARBON RES.	
	R393	QRD161J-471	470 1/6W CARBON RES.	
	R394	QRD161J-471	470 1/6W CARBON RES.	
	R395	QRD161J-471	470 1/6W CARBON RES.	
	R396	QRD161J-471	470 1/6W CARBON RES.	
	R397	QRD161J-471	470 1/6W CARBON RES.	
	R398	QRD161J-471	470 1/6W CARBON RES.	
	R401	QRD161J-104	100K 1/6W CARBON RES.	
	R402	QRD161J-104	100K 1/6W CARBON RES.	
	R409	QRD161J-331	330 1/6W CARBON RES.	
	R410	QRD167J-223	22K 1/6W CARBON RES.	
	R411	QRD161J-221	220 1/6W CARBON RES.	
	R412	QRD161J-221	220 1/6W CARBON RES.	
	R413	QRD161J-221	220 1/6W CARBON RES.	
	R414	QRD167J-431	430 1/6W CARBON RES.	
	R416	QRD161J-472	4.7K 1/6W CARBON RES.	
	R417	QRD161J-103	10K 1/6W CARBON RES.	
	R418	QRD161J-472	4.7K 1/6W CARBON RES.	
	R421	QRD161J-221	220 1/6W CARBON RES.	
	R422	QRD161J-221	220 1/6W CARBON RES.	
	R423	QRD161J-221	220 1/6W CARBON RES.	
	R424	QRD161J-221	220 1/6W CARBON RES.	
	R425	QRD161J-221	220 1/6W CARBON RES.	
	R426	QRD161J-221	220 1/6W CARBON RES.	
	R427	QRD161J-221	220 1/6W CARBON RES.	
	R428	QRD161J-221	220 1/6W CARBON RES.	
	R429	QRD161J-221	220 1/6W CARBON RES.	

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⚠	Item	Parts Number	Description	Area
	R430	QRD161J-221	220 1/6W CARBON RES.	
	R431	QRD161J-221	220 1/6W CARBON RES.	
	R432	QRD161J-221	220 1/6W CARBON RES.	
	R433	QRD161J-221	220 1/6W CARBON RES.	
	R434	QRD161J-221	220 1/6W CARBON RES.	
	R435	QRD161J-221	220 1/6W CARBON RES.	
	R436	QRD161J-221	220 1/6W CARBON RES.	
	R437	QRD161J-221	220 1/6W CARBON RES.	
	R438	QRD161J-221	220 1/6W CARBON RES.	
	R439	QRD161J-221	220 1/6W CARBON RES.	
	R440	QRD161J-221	220 1/6W CARBON RES.	
	R441	QRD161J-221	220 1/6W CARBON RES.	
	R451	QRD161J-103	10K 1/6W CARBON RES.	
	R454	QRD161J-471	470 1/6W CARBON RES.	
⚠	R471	QRG022J-680AM	68 2W OXIDE METAL	
⚠	R474	QRG022J-180AF	18 2W OXIDE METAL	
	R491	QRD161J-221	220 1/6W CARBON RES.	
	R492	QRD161J-471	470 1/6W CARBON RES.	
	R501	QRD161J-202	2K 1/6W CARBON RES.	
	R503	QRD167J-223	22K 1/6W CARBON RES.	
	R504	QRD167J-223	22K 1/6W CARBON RES.	
	R505	QRD167J-223	22K 1/6W CARBON RES.	
	R506	QRD167J-223	22K 1/6W CARBON RES.	
	R507	QRD161J-103	10K 1/6W CARBON RES.	
	R508	QRD161J-103	10K 1/6W CARBON RES.	
	R641	QRD161J-102	1K 1/6W CARBON RES.	
	R642	QRD161J-102	1K 1/6W CARBON RES.	
	R643	QRD161J-203	20K 1/6W CARBON RES.	
	R644	QRD161J-393	39K 1/6W CARBON RES.	
	R651	QRD161J-105	1M 1/6W CARBON RES.	
	R669	QRD167J-152	1.5K 1/6W CARBON RES.	
	R671	QRD167J-151	150 1/6W CARBON RES.	
	R672	QRD167J-151	150 1/6W CARBON RES.	
	R675	QRD161J-271	270 1/6W CARBON RES.	
	R676	QRD161J-271	270 1/6W CARBON RES.	
	R683	QRD167J-152	1.5K 1/6W CARBON RES.	
	R893	QRD161J-103	10K 1/6W CARBON RES.	
	R894	QRD161J-202	2K 1/6W CARBON RES.	
	RA401	QRB049J-103	10K 1/10WRES.	
	VR551	QVDC94Z-E15FJ5	100K VARIABLE RES.	
	VR891	QVDB92C-E15DJ3	100K VARIABLE RES.	
		OTHERS		
		EMW10625-003	PRINTED BOARD	
		SBSG3008CC	TAPPING SCREW	
	J301	EMN00TV-422AJ2	PIN JACK	
	J302	EMN00TV-422AJ2	PIN JACK	
	J304	EMN00TV-420AJ2	PIN JACK	
	J305	EMN00TV-420AJ2	PIN JACK	
	J491	QMS3501-021	PIN JACK	
	J961	QMS6022-V01	MICROPHONE JACK	
	S401	ESP0001-023M	TACT SWITCH	
	S402	ESP0001-023M	TACT SWITCH	
	S403	ESP0001-023M	TACT SWITCH	
	S404	ESP0001-023M	TACT SWITCH	
	S405	ESP0001-023M	TACT SWITCH	
	S406	ESP0001-023M	TACT SWITCH	
	S407	ESP0001-023M	TACT SWITCH	
	S408	ESP0001-023M	TACT SWITCH	
	S409	ESP0001-023M	TACT SWITCH	
	S410	ESP0001-023M	TACT SWITCH	
	S411	ESP0001-023M	TACT SWITCH	
	S412	ESP0001-023M	TACT SWITCH	
	S413	ESP0001-023M	TACT SWITCH	
	S414	ESP0001-023M	TACT SWITCH	
	S415	ESP0001-023M	TACT SWITCH	

⚠	Item	Parts Number	Description	Area
	S416	ESP0001-023M	TACT SWITCH	
	S417	ESP0001-023M	TACT SWITCH	
	S418	ESP0001-023M	TACT SWITCH	
	S419	ESP0001-023M	TACT SWITCH	
	S420	ESP0001-023M	TACT SWITCH	
	S421	ESP0001-023M	TACT SWITCH	
	S422	ESP0001-023M	TACT SWITCH	
	S423	ESP0001-023M	TACT SWITCH	
	S424	ESP0001-023M	TACT SWITCH	
	X401	ECXP6R0-001ZA	CRYSTAL	
	X641	ECXP8R0-001Z	CRYSTAL	
	CN301	EMV7163-012	CONNECT TERMINAL	
	CN302	EMV7163-011	CONNECT TERMINAL	
	CN303	EMV7163-005	CONNECTOR	
	CN312	EMV5163-011R	CONNECT TERMINAL	
	CN401	VMC0194-P04	CONNECT TERMINAL	
	CN402	VMC0194-S06	CONNECT TERMINAL	
	CN403	EMV7123-017R	CONNECT TERMINAL	
	CN411	VMC0194-S04	CONNECT TERMINAL	
	CN412	VMC0194-P06	CONNECT TERMINAL	
	CN413	EMV7123-017	CONNECTOR	
	CN511	EMV5163-011R	CONNECT TERMINAL	
	CN601	EWS296-0125	SOCKET WIRE ASSY	
	CN611	EMV5109-006A	CONNECT TERMINAL	
	CN811	EMV7123-013R	CONNECT TERMINAL	
	DI401	ELU0001-144	FLUORESCENT DISPLAY TUBE	
	FH001	E308270-002SM	FL HOLDER	
	FH002	E308270-002SM	FL HOLDER	
	FW851	EWR36D-35LS	FLAT WIRE	
	FW891	EWR33D-25LS	FLAT WIRE	
	FW961	EWR33D-35LS	FLAT WIRE	
	HS002	E70945-H40B	HEAT SINK	
	SP001	E3400-444	FELT SPACER	
	SP002	E3400-444	FELT SPACER	

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⚠	Item	Parts Number	Description	Area
		I.C.S		
	IC501	LB1641	I.C(DIGI-OTHER)	
	IC901	TA7317P	I.C(MONO-ANALOG)	
		DIODES		
	D007	MTZ6.2JC	ZENER DIODE	
	D008	1SS133	SI. DIODE	
⚠	D021	1SR139-200	SI. DIODE	
⚠	D022	1SR139-200	SI. DIODE	
⚠	D023	1SR139-200	SI. DIODE	
⚠	D024	1SR139-200	SI. DIODE	
	D053	1SS133	SI. DIODE	
	D061	1SS133	SI. DIODE	
	D062	1SS133	SI. DIODE	
	D065	1SS133	SI. DIODE	
	D081	1SS133	SI. DIODE	
	D553	1SS133	SI. DIODE	
	D563	1SS133	SI. DIODE	
	D585	1SS133	SI. DIODE	
	D586	1SS133	SI. DIODE	
	D591	1SS133	SI. DIODE	
	D703	1SS133	SI. DIODE	
	D704	1SS133	SI. DIODE	
	D781	1SS133	SI. DIODE	
	D782	1SS133	SI. DIODE	
	D783	1SS133	SI. DIODE	
	D784	1SS133	SI. DIODE	
⚠	D801	30D2FC	GE. DIODE	
⚠	D802	30D2FC	GE. DIODE	
⚠	D803	30D2FC	GE. DIODE	
⚠	D804	30D2FC	GE. DIODE	
⚠	D805	30D2FC	GE. DIODE	
⚠	D806	30D2FC	GE. DIODE	
⚠	D807	30D2FC	GE. DIODE	
⚠	D808	30D2FC	GE. DIODE	
	D811	1SR139-200	SI. DIODE	
	D812	1SR139-200	SI. DIODE	
	D813	1SS133	SI. DIODE	
	D814	1SS133	SI. DIODE	
	D840	MTZ10JC	ZENER DIODE	
	D841	MTZ16JC	ZENER DIODE	
	D842	1SS133	SI. DIODE	
	D885	MTZ6.2JC	ZENER DIODE	
	D891	MTZ6.8JC	ZENER DIODE	
	D892	1SS133	SI. DIODE	
	D901	1SS133	SI. DIODE	
	D902	1SS133	SI. DIODE	
	D921	1SS133	SI. DIODE	
	D925	1SS133	SI. DIODE	
	D951	1SS133	SI. DIODE	
	D952	1SS133	SI. DIODE	
		TRANSISTORS		
	Q002	2SC2235(O,Y)	SI. TRANSISTOR	
	Q003	DTC114ES	DIGITAL TRANSISTOR	
	Q051	2SC2240(BL)	SI. TRANSISTOR	
	Q052	2SC2240(BL)	SI. TRANSISTOR	
	Q053	2SA1038(R,S)	SI. TRANSISTOR	
	Q055	2SC2235(O,Y)	SI. TRANSISTOR	
	Q056	2SA965(Y)	SI. TRANSISTOR	
	Q059	2SC2389(S,E)	SI. TRANSISTOR	
	Q061	2SC2389(S,E)	SI. TRANSISTOR	
	Q062	2SA1038(R,S)	SI. TRANSISTOR	
	Q551	2SC2240(BL)	SI. TRANSISTOR	
	Q552	2SC2240(BL)	SI. TRANSISTOR	
	Q561	2SA1038(R,S)	SI. TRANSISTOR	
	Q573	2SC2235(O,Y)	SI. TRANSISTOR	
	Q574	2SA965(Y)	SI. TRANSISTOR	
	Q585	2SC2389(S,E)	SI. TRANSISTOR	
	Q586	2SA1038(R,S)	SI. TRANSISTOR	
	Q591	2SC2389(S,E)	SI. TRANSISTOR	
	Q701	2SC1775AV(F1)	SI. TRANSISTOR	
	Q702	2SC1775AV(F1)	SI. TRANSISTOR	
	Q703	2SC1775AV(F1)	SI. TRANSISTOR	
	Q704	2SC1775AV(F1)	SI. TRANSISTOR	
	Q707	2SA1038(R,S)	SI. TRANSISTOR	
	Q708	2SA1038(R,S)	SI. TRANSISTOR	
	Q741	2SD636	SI. TRANSISTOR	
	Q742	2SD636	SI. TRANSISTOR	
	Q751	2SC2389(S,E)	SI. TRANSISTOR	
	Q752	2SC2389(S,E)	SI. TRANSISTOR	
	Q753	2SA1038(R,S)	SI. TRANSISTOR	
	Q754	2SA1038(R,S)	SI. TRANSISTOR	
	Q755	2SC2235(O,Y)	SI. TRANSISTOR	
	Q756	2SC2235(O,Y)	SI. TRANSISTOR	
	Q757	2SA965(Y)	SI. TRANSISTOR	
	Q758	2SA965(Y)	SI. TRANSISTOR	
	Q781	2SC2389(S,E)	SI. TRANSISTOR	
	Q782	2SC2389(S,E)	SI. TRANSISTOR	
	Q783	2SA1038(R,S)	SI. TRANSISTOR	
	Q784	2SA1038(R,S)	SI. TRANSISTOR	
	Q801	DTC123YS	SI. TRANSISTOR	
	Q802	DTC144ES	DIGITAL TRANSISTOR	
	Q841	2SB1187(F,G)	SI. TRANSISTOR	
	Q885	2SC2240(GR,BL)	SI. TRANSISTOR	
	Q891	2SD2061(F,G)	SI. TRANSISTOR	
	Q901	2SC2389(S,E)	SI. TRANSISTOR	
	Q902	2SC2389(S,E)	SI. TRANSISTOR	
	Q903	2SA1038(R,S)	SI. TRANSISTOR	
	Q951	DTC123YS	SI. TRANSISTOR	
		CAPACITORS		
	C001	QFN82AK-472	4700PF 100V METAL. MYLAR	
	C002	QETB1EM-227	220MF 25V AL E. CAP.	
⚠	C011	QCZ9019-472	4700PF C. CAP.	
	C023	QETB1CM-476	47MF 16V AL E. CAP.	
	C051	QETB1HM-106	10MF 50V E. CAP.	
	C052	QCS21HJ-271A	270PF 50V CER. CAP.	
	C053	QCS21HJ-101A	100PF 50V CER. CAP.	
	C057	QCS21HJ-100	10PF 50V CER. CAP.	
	C058	QETB1CM-476	47MF 16V AL E. CAP.	
	C061	QETB1HM-225	2.2MF 50V AL E. CAP.	
	C062	QFLB1HJ-103	0.01MF 50V MYLAR CAP.	
	C063	QCS22HJ-330	33PF 500V CER. CAP.	
	C064	QETB1HM-476	47MF 50V E. CAP.	
	C067	QETB2AM-106	10MF 100V AL E. CAP.	
	C071	QCS22HJ-470A	47PF 500V CER. CAP.	
	C072	QCS22HJ-470A	47PF 500V CER. CAP.	
	C093	QFLB1HJ-223	0.022MF 50V MYLAR CAP.	J
	C093	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	C
	C094	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	C
	C511	QCHB1EZ-223	0.022MF 25V CER. CAP.	
	C521	QFLB1HJ-332	3300PF 50V MYLAR CAP.	
	C522	QFLB1HJ-332	3300PF 50V MYLAR CAP.	
	C523	QFLB1HJ-183	0.018MF 50V MYLAR CAP.	
	C524	QFLB1HJ-183	0.018MF 50V MYLAR CAP.	
	C531	QETB1HM-105	1MF 50V AL E. CAP.	
	C532	QETB1HM-105	1MF 50V AL E. CAP.	
	C533	QFLB1HJ-153	0.015MF 50V MYLAR CAP.	
	C534	QFLB1HJ-153	0.015MF 50V MYLAR CAP.	
	C535	QFLB1HJ-823	0.082MF 50V MYLAR CAP.	
	C536	QFLB1HJ-823	0.082MF 50V MYLAR CAP.	
	C537	QETB1HM-105	1MF 50V AL E. CAP.	

Electrical Parts List (ENH-288)

⚠	Item	Parts Number	Description	Area
	C538	QETB1HM-105	1MF 50V AL E.CAP.	
	C551	QETB1HM-106	10MF 50V E.CAP.	
	C552	QCS21HJ-271A	270PF 50V CER.CAP.	
	C553	QCS21HJ-101A	100PF 50V CER.CAP.	
	C556	QCXB1CM-152Y	1500PF 16V CER.CAP.	
	C557	QCS21HJ-100	10PF 50V CER.CAP.	
	C558	QETB1CM-476	47MF 16V AL E.CAP.	
	C561	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C562	QCS22HJ-330	33PF 500V CER.CAP.	
	C563	QFLB1HJ-103	0.01MF 50V MYLAR CAP.	
	C564	QETB1HM-476	47MF 50V E.CAP.	
	C571	QCS22HJ-470A	47PF 500V CER.CAP.	
	C572	QCS22HJ-470A	47PF 500V CER.CAP.	
	C581	QFLB1HJ-223	0.022MF 50V MYLAR CAP.	J
	C581	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	C
	C582	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	C
	C599	QETB1HM-476	47MF 50V E.CAP.	
	C671	QETB0JM-108N	1000MF 6.3V E.CAP.	
	C672	QETB0JM-108N	1000MF 6.3V E.CAP.	
	C673	QETB1HM-475E	4.7MF 50V E.CAP.	
	C674	QETB1HM-475E	4.7MF 50V E.CAP.	
	C701	QETC1HM-106ZM	10MF 50V E.CAP.	
	C702	QETC1HM-106ZM	10MF 50V E.CAP.	
	C703	QCS21HJ-271A	270PF 50V CER.CAP.	
	C704	QCS21HJ-271A	270PF 50V CER.CAP.	
	C705	QCS21HJ-101A	100PF 50V CER.CAP.	
	C706	QCS21HJ-101A	100PF 50V CER.CAP.	
	C711	QEHB1HM-476	47MF 50V AL E.CAP.	
	C712	QEHB1HM-476	47MF 50V AL E.CAP.	
	C713	QCS21HJ-100	10PF 50V CER.CAP.	
	C714	QCS21HJ-100	10PF 50V CER.CAP.	
	C717	QCXB1CM-152Y	1500PF 16V CER.CAP.	
	C718	QCXB1CM-152Y	1500PF 16V CER.CAP.	
	C721	QCS22HJ-220	22PF 500V CER.CAP.	
	C722	QCS22HJ-220	22PF 500V CER.CAP.	
	C723	EETB1HM-225E	2.2MF 50V E.CAP.	
	C724	EETB1HM-225E	2.2MF 50V E.CAP.	
	C725	QEHC1HM-226	22MF 50V E.CAP.	
	C726	QEHC1HM-226	22MF 50V E.CAP.	
	C727	QFLB1HJ-472	4700PF 50V MYLAR CAP.	
	C728	QFLB1HJ-472	4700PF 50V MYLAR CAP.	
	C739	QETB2AM-476	47MF 100V AL E.CAP.	
	C751	QCS22HJ-470A	47PF 500V CER.CAP.	
	C752	QCS22HJ-470A	47PF 500V CER.CAP.	
	C753	QCS22HJ-470A	47PF 500V CER.CAP.	
	C754	QCS22HJ-470A	47PF 500V CER.CAP.	
	C771	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	C
	C772	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	C
	C773	QFLB1HJ-223	0.022MF 50V MYLAR CAP.	J
	C773	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	C
	C774	QFLB1HJ-223	0.022MF 50V MYLAR CAP.	J
	C774	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	C
	C801	QEZ0340-688	6800MF ELECTRO	
	C802	QEZ0340-688	6800MF ELECTRO	
	C803	QCE22HP-103A	0.01MF 500V CER.CAP.	
	C804	QCE22HP-103A	0.01MF 500V CER.CAP.	
	C805	QCE22HP-103A	0.01MF 500V CER.CAP.	
	C806	QCE22HP-103A	0.01MF 500V CER.CAP.	
	C807	QCE22HP-103A	0.01MF 500V CER.CAP.	
	C810	QFN81HJ-823	0.082MF 50V METAL.MYLAR	
	C811	QETB1VM-228N	2200MF 35V E.CAP.	
	C812	QFN82AJ-104	0.1MF 100V MYLAR CAP.	
	C813	QFN82AJ-104	0.1MF 100V MYLAR CAP.	
	C840	QETB1HM-476	47MF 50V E.CAP.	
	C841	QETB1HM-476	47MF 50V E.CAP.	

⚠	Item	Parts Number	Description	Area
	C854	QETB1EM-107	100MF 25V AL E.CAP.	
	C885	QETB1HM-105	1MF 50V AL E.CAP.	
	C896	QETB1EM-107	100MF 25V AL E.CAP.	
	C903	QETB1HM-226E	22MF 50V E.CAP.	
	C904	QCY31HK-102Z	1000PF 50V CER.CAP.	
	C905	QETB1AM-476	47MF 10V E.CAP.	
	C906	QCF21HP-103A	0.01MF 50V CER.CAP.	
	C909	QETB1CM-226	22MF 16V E.CAP.	
	C925	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C951	QCS31HJ-331Z	330PF 50V CER.CAP.	
	C952	QCS31HJ-331Z	330PF 50V CER.CAP.	
		RESISTORS		
⚠	R001	QRC128K-275EM	2.7M 1/2W COMPOSITION	
⚠	R011	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
	R013	QRD14CJ-821SX	820 1/4W CARBON RES.	
⚠	R015	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
	R051	QRD161J-222	2.2K 1/6W CARBON RES.	
	R052	QRD161J-104	100K 1/6W CARBON RES.	
	R053	QRD161J-202	2K 1/6W CARBON RES.	
	R054	QRD161J-202	2K 1/6W CARBON RES.	
	R055	QRD161J-123	12K 1/6W CARBON RES.	
	R057	QRD161J-104	100K 1/6W CARBON RES.	
	R058	QRD167J-751	750 1/6W CARBON RES.	
⚠	R061	QRD14CJ-181S	180 1/4W UNF.CARBON R	
	R062	QRD167J-332	3.3K 1/6W CARBON RES.	
	R063	QRD167J-332	3.3K 1/6W CARBON RES.	
	R064	QRD167J-332	3.3K 1/6W CARBON RES.	
	R065	QRD167J-332	3.3K 1/6W CARBON RES.	
	R067	QRD14CJ-331SX	330 1/4W UNF.CARBON R	
	R068	QRD14CJ-331SX	330 1/4W UNF.CARBON R	
⚠	R072	QRD14CJ-561SX	560 1/4W UNF.CARBON R	
⚠	R073	QRD145J-150S	15 1/4W UNF.CARBON R	
⚠	R074	QRD145J-150S	15 1/4W UNF.CARBON R	
⚠	R077	ERF032K-R22	0.22 3W CEM.RES.	
⚠	R078	QRD125J-330	33 1/2W UNF.CARBON R	
	R081	QRD161J-102	1K 1/6W CARBON RES.	
	R082	QRD161J-183	18K 1/6W CARBON RES.	
	R083	QRD161J-123	12K 1/6W CARBON RES.	
	R090	ERT-D2WHL202S	2K 1/4W NEGATIVE THE	
	R091	QRD161J-820	82 1/6W CARBON RES.	
	R092	QRD161J-391	390 1/6W CARBON RES.	
	R093	QRD161J-181	180 1/6W CARBON RES.	
	R094	QRD161J-181	180 1/6W CARBON RES.	
	R095	QRD161J-181	180 1/6W CARBON RES.	
	R096	QRD161J-181	180 1/6W CARBON RES.	
⚠	R097	QRG022J-100A	10 2W OXIDE METAL	
	R098	QRD161J-104	100K 1/6W CARBON RES.	
	R511	QRD161J-102	1K 1/6W CARBON RES.	
	R512	QRD161J-242	2.4K 1/6W CARBON RES.	
	R523	QRD161J-472	4.7K 1/6W CARBON RES.	
	R524	QRD161J-472	4.7K 1/6W CARBON RES.	
	R525	QRD161J-122	1.2K 1/6W CARBON RES.	
	R526	QRD161J-122	1.2K 1/6W CARBON RES.	
	R533	QRD161J-203	20K 1/6W CARBON RES.	
	R534	QRD161J-203	20K 1/6W CARBON RES.	
	R535	QRD161J-362	3.6K 1/6W CARBON RES.	
	R536	QRD161J-362	3.6K 1/6W CARBON RES.	
	R551	QRD161J-222	2.2K 1/6W CARBON RES.	
	R552	QRD161J-104	100K 1/6W CARBON RES.	
	R553	QRD161J-202	2K 1/6W CARBON RES.	
	R554	QRD161J-202	2K 1/6W CARBON RES.	
	R555	QRD161J-103	10K 1/6W CARBON RES.	
	R556	QRD161J-101	100 1/6W CARBON RES.	
	R557	QRD161J-823	82K 1/6W CARBON RES.	
	R558	QRD161J-621	620 1/6W CARBON RES.	

Electrical Parts List (ENA-172)

⚠	Item	Parts Number	Description	Area
		I.C.S		
	IC102	LC72131	I.C(M)	
	IC104	LA1266A	I.C(MONO-ANALOG)	
	IC105	LA3401	I.C(MONO-ANALOG)	
		DIODES		
	D101	1SS133	SI.DIODE	
	D106	1SS133	SI.DIODE	
	D111	1SS133	SI.DIODE	
	D112	1SS133	SI.DIODE	
	D120	1SS133	SI.DIODE	
	D121	1SS133	SI.DIODE	
	D122	1SS133	SI.DIODE	
	D123	1SS133	SI.DIODE	
	VC105	SVC342(L)	VARI-CAPA DIODE	
		TRANSISTORS		
	Q103	2SC461	SI.TRANSISTOR	
	Q107	2SC535	SI.TRANSISTOR	
	Q108	2SC461	SI.TRANSISTOR	
	Q112	2SK301(P,Q)	F.E.T.	
	Q123	DTA144ES	DIGITAL TRANSISTOR	
	Q124	DTA144ES	DIGITAL TRANSISTOR	
	Q127	DTC144ES	DIGITAL TRANSISTOR	
		CAPACITORS		
	C101	QCF21HP-223A	0.022MF 50V CER.CAP.	
	C122	QCF21HP-223A	0.022MF 50V CER.CAP.	
	C126	QCF21HP-223A	0.022MF 50V CER.CAP.	
	C132	QCS31HJ-561Z	560PF 50V CER.CAP.	
	C133	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C134	QETB1EM-106	10MF 25V AL E.CAP.	
	C135	QCC21EM-223	0.022MF 25V CER.CAP.	
	C136	QCT25CH-180Z	18PF 50V CER.CAP.	
	C137	QCT26CH-221	220PF 50V CER.CAP.	
	C138	QCT26CH-241	240PF 50V CER.CAP.	
	C149	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C150	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C151	QCF21HP-223A	0.022MF 50V CER.CAP.	
	C152	QCF21HP-223A	0.022MF 50V CER.CAP.	
	C153	QCC21EM-223	0.022MF 25V CER.CAP.	
	C154	QCF21HP-223A	0.022MF 50V CER.CAP.	
	C155	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C156	QETB1CM-227	220MF 16V AL E.CAP.	
	C157	QETB1HM-474	0.47MF 50V E.CAP.	
	C158	QCBB1HK-101Y	100PF 50V CER.CAP.	
	C159	QCBB1HK-101Y	100PF 50V CER.CAP.	
	C160	QCBB1HK-221Y	220PF 50V CER.CAP.	
	C161	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C162	QETB1EM-106	10MF 25V AL E.CAP.	
	C163	QFLB1HJ-102	1000PF 50V MYLAR CAP.	
	C164	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C165	QETB1HM-474	0.47MF 50V E.CAP.	
	C166	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C167	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C168	QEK51HM-475	4.7MF 50V AL E.CAP.	
	C169	QCF21HP-223A	0.022MF 50V CER.CAP.	
	C170	QCHB1EZ-223	0.022MF 25V CER.CAP.	
	C171	QEK51EM-106	10MF 25V AL E.CAP.	
	C172	QCVB1CM-103Y	0.01MF 16V CER.CAP.	
	C173	QFLB1HJ-393	0.039MF 50V MYLAR CAP.	
	C174	QFLB1HJ-473	0.047MF 50V MYLAR CAP.	
	C175	QETB1EM-106	10MF 25V AL E.CAP.	
	C176	QCY31HK-102Z	1000PF 50V CER.CAP.	
	C177	QCS31HJ-821Z	820PF 50V CER.CAP.	
	C178	QCS31HJ-821Z	820PF 50V CER.CAP.	
	C179	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C180	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C181	QETB1EM-106	10MF 25V AL E.CAP.	
	C182	QETB1HM-225	2.2MF 50V AL E.CAP.	
	C183	QETB1HM-105	1MF 50V AL E.CAP.	
	C184	QETB1HM-105	1MF 50V AL E.CAP.	
	C185	QEK51HM-225G	2.2MF 50V AL E.CAP.	
	C186	QETB1HM-474	0.47MF 50V E.CAP.	
	C191	QETB1HM-475E	4.7MF 50V E.CAP.	
	C192	QCC21EM-473	0.047MF 25V CER.CAP.	
	C193	QCS21HJ-180A	18PF 50V CER.CAP.	
	C194	QCS21HJ-180A	18PF 50V CER.CAP.	
	C195	QFV71HJ-474ZM	0.47MF 50V THIN FILM CAP.	
	C196	QCY31HK-102Z	1000PF 50V CER.CAP.	
	C197	QCF21HP-223A	0.022MF 50V CER.CAP.	
	C198	QCF21HP-103A	0.01MF 50V CER.CAP.	
	C199	QCVB1CM-103Y	0.01MF 16V CER.CAP.	
	C222	QETB1CM-477M	470MF 16V E.CAP.	
	C229	QETB1CM-227	220MF 16V AL E.CAP.	
	TC105	ENZ1003-006	00MF TRIMMER CAPA	
		RESISTORS		
	R101	QRD161J-103	10K 1/6W CARBON RES.	
	R102	QRD161J-103	10K 1/6W CARBON RES.	
	R103	QRD161J-103	10K 1/6W CARBON RES.	
	R105	QRD161J-103	10K 1/6W CARBON RES.	
	R108	QRD161J-103	10K 1/6W CARBON RES.	
⚠	R109	QRD14CJ-680SX	68 1/4W UNF.CARBON R	
	R118	QRD167J-332	3.3K 1/6W CARBON RES.	
	R119	QRD161J-221	220 1/6W CARBON RES.	
	R121	QRD161J-391	390 1/6W CARBON RES.	
	R122	QRD167J-272	2.7K 1/6W CARBON RES.	
	R123	QRD161J-102	1K 1/6W CARBON RES.	
	R124	QRD161J-681	680 1/6W CARBON RES.	
	R125	QRD167J-332	3.3K 1/6W CARBON RES.	
	R126	QRD161J-221	220 1/6W CARBON RES.	
	R131	QRD161J-331	330 1/6W CARBON RES.	
	R132	QRD161J-103	10K 1/6W CARBON RES.	
	R133	QRD161J-473	47K 1/6W CARBON RES.	
	R135	QRD161J-470	47 1/6W CARBON RES.	
	R136	QRD161J-103	10K 1/6W CARBON RES.	
	R146	QRD167J-560	56 1/6W CARBON RES.	
	R147	QRD161J-103	10K 1/6W CARBON RES.	
	R148	QRD161J-103	10K 1/6W CARBON RES.	
	R149	QRD161J-273	27K 1/6W CARBON RES.	
	R150	QRD161J-103	10K 1/6W CARBON RES.	
	R151	QRD161J-222	2.2K 1/6W CARBON RES.	
	R153	QRD161J-103	10K 1/6W CARBON RES.	
	R154	QRD161J-103	10K 1/6W CARBON RES.	
	R155	QRD167J-562	5.6K 1/6W CARBON RES.	
	R156	QRD167J-822	8.2K 1/6W CARBON RES.	
	R157	QRD161J-103	10K 1/6W CARBON RES.	
	R158	QRD161J-183	18K 1/6W CARBON RES.	
	R159	QRD161J-561	560 1/6W CARBON RES.	
	R160	QRD167J-562	5.6K 1/6W CARBON RES.	
	R161	QRD161J-823	82K 1/6W CARBON RES.	
	R162	QRD161J-823	82K 1/6W CARBON RES.	
	R163	QRD161J-472	4.7K 1/6W CARBON RES.	
	R164	QRD161J-472	4.7K 1/6W CARBON RES.	
	R165	QRD161J-184	180K 1/6W CARBON RES.	
	R166	QRD161J-184	180K 1/6W CARBON RES.	
	R167	QRD161J-393	39K 1/6W CARBON RES.	
	R168	QRD161J-103	10K 1/6W CARBON RES.	
	R169	QRD161J-103	10K 1/6W CARBON RES.	
	R171	QRD167J-682	6.8K 1/6W CARBON RES.	
	R172	QRD167J-682	6.8K 1/6W CARBON RES.	
	R180	QRD161J-103	10K 1/6W CARBON RES.	
	R181	QRD161J-222	2.2K 1/6W CARBON RES.	

Electrical Parts List (ENA-172)

⚠	Item	Parts Number	Description	Area
	R190	QRD161J-103	10K 1/6W CARBON RES.	
	R191	QRD167J-562	5.6K 1/6W CARBON RES.	
	R194	QRD161J-103	10K 1/6W CARBON RES.	
	R195	QRD161J-473	47K 1/6W CARBON RES.	
	R197	QRD161J-222	2.2K 1/6W CARBON RES.	
	R198	QRD167J-822	8.2K 1/6W CARBON RES.	
	R199	QRD161J-472	4.7K 1/6W CARBON RES.	
		OTHERS		
		EMW10604-003A	PRINTED BOARD	
	L106	EQL3001-102K	INDUCTOR	
	L120	EQL4007-1R0	INDUCTOR	
	T101	EQR1111-014	RF COIL	
	T103	EQR1207-017	RF COIL	
	T105	EQT2140-017	I.F.TRANSFORMER	
	T107	ECB1560-010	CERAMIC FILTER	
	AT101	FMMB10YV-401K	ANTENNA TERMINAL	
	CF101	ECB2123-006R	CERAMIC FILTER	
	CF102	ECB2123-006R	CERAMIC FILTER	
	CN011	EMV5163-012R	CONNECT TERMINAL	
	FE101	EAF2203-004	FRONT END	
	LP101	EQF0101-002	LOWPASS FILTER	
	XT102	ECX0007-200KWJ1	CRYSTAL	
	XT103	ECX0000-456KR	CERAMIC RESONATOR	

Accessories List

Block No. M2MM

⚠	Item	Parts Number	Parts Name	Q'ty	Description	Area
	1	LET0003-001A	INSTRUCTION BOOK	1		J
	1	LET0003-002A	INSTRUCTION BOOK	1		C
	2	RM-SR620U	WIRE-LESS REMOTE CONTROL	1		
	3	R6SPTT-2ST	BATTERY	2		
	4	EQB4001-015	LOOP ANTENNA	1		
	5	EWP201-011	ANTENNA WIRE	1		
	6	E309758-001	POLY BAG	1		
	-	BT-20044G	SAFETY SHEET	1		J
	-	BT-20071B	SERVICE NETWORK	1		C
	-	BT-51006-1	REGISTER CARD	1		J
	-	BT-52002-1	WARRANTY CARD	1		C

Electrical Parts List (ENH-288)

⚠	Item	Parts Number	Description	Area
	R560	QRD161J-133Y	13K 1/6W CARBON RES.	
⚠	R561	QRD14CJ-221S	220 1/4W UNF.CARBON R	
	R562	QRD161J-820	82 1/6W CARBON RES.	
	R563	QRD167J-332	3.3K 1/6W CARBON RES.	
	R564	QRD167J-332	3.3K 1/6W CARBON RES.	
	R565	QRD167J-332	3.3K 1/6W CARBON RES.	
	R566	QRD167J-332	3.3K 1/6W CARBON RES.	
	R567	QRD161J-391	390 1/6W CARBON RES.	
	R568	ERT-D2WHL202S	2K 1/4W NEGATIVE THE	
⚠	R569	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R570	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R571	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R572	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R575	QRD145J-150S	15 1/4W UNF.CARBON R	
⚠	R576	QRD145J-150S	15 1/4W UNF.CARBON R	
⚠	R577	ERF032K-R22	0.22 3W CEM.RES.	
⚠	R578	QRD14CJ-561SX	560 1/4W UNF.CARBON R	
⚠	R581	QRD125J-330	33 1/2W UNF.CARBON R	
⚠	R582	QRG022J-100A	10 2W OXIDE METAL	
	R585	QRD161J-181	180 1/6W CARBON RES.	
	R586	QRD161J-181	180 1/6W CARBON RES.	
	R587	QRD161J-181	180 1/6W CARBON RES.	
	R588	QRD161J-181	180 1/6W CARBON RES.	
	R591	QRD161J-102	1K 1/6W CARBON RES.	
	R592	QRD161J-183	18K 1/6W CARBON RES.	
	R593	QRD161J-123	12K 1/6W CARBON RES.	
	R594	QRD161J-104	100K 1/6W CARBON RES.	
	R661	QRD161J-750	75 1/6W CARBON RES.	
	R662	QRD161J-750	75 1/6W CARBON RES.	
	R663	QRD161J-750	75 1/6W CARBON RES.	
	R664	QRD161J-750	75 1/6W CARBON RES.	
	R665	QRD161J-473	47K 1/6W CARBON RES.	
	R666	QRD161J-473	47K 1/6W CARBON RES.	
	R667	QRD161J-331	330 1/6W CARBON RES.	
	R668	QRD161J-331	330 1/6W CARBON RES.	
	R701	QRD161J-222	2.2K 1/6W CARBON RES.	
	R702	QRD161J-222	2.2K 1/6W CARBON RES.	
	R703	QRD161J-104	100K 1/6W CARBON RES.	
	R704	QRD161J-104	100K 1/6W CARBON RES.	
	R705	QRD161J-202	2K 1/6W CARBON RES.	
	R706	QRD161J-202	2K 1/6W CARBON RES.	
	R707	QRD161J-202	2K 1/6W CARBON RES.	
	R708	QRD161J-202	2K 1/6W CARBON RES.	
	R709	QRD161J-133Y	13K 1/6W CARBON RES.	
	R710	QRD161J-133Y	13K 1/6W CARBON RES.	
	R711	QRD161J-621	620 1/6W CARBON RES.	
	R712	QRD161J-621	620 1/6W CARBON RES.	
	R713	QRD161J-133Y	13K 1/6W CARBON RES.	
	R714	QRD161J-133Y	13K 1/6W CARBON RES.	
	R715	QRD161J-823	82K 1/6W CARBON RES.	
	R716	QRD161J-823	82K 1/6W CARBON RES.	
	R717	QRD161J-101	100 1/6W CARBON RES.	
	R718	QRD161J-101	100 1/6W CARBON RES.	
	R721	QRD14CJ-151SX	150 1/4W UNF.CARBON R	
	R722	QRD14CJ-151SX	150 1/4W UNF.CARBON R	
	R727	QRD167J-332	3.3K 1/6W CARBON RES.	
	R728	QRD167J-332	3.3K 1/6W CARBON RES.	
	R729	QRD167J-332	3.3K 1/6W CARBON RES.	
	R730	QRD167J-332	3.3K 1/6W CARBON RES.	
	R731	QRD167J-332	3.3K 1/6W CARBON RES.	
	R732	QRD167J-332	3.3K 1/6W CARBON RES.	
	R733	QRD167J-332	3.3K 1/6W CARBON RES.	
	R734	QRD167J-332	3.3K 1/6W CARBON RES.	
⚠	R739	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R740	QRD14CJ-100SX	10 1/4W UNF.CARBON R	

⚠	Item	Parts Number	Description	Area
	R743	QRD161J-132	1.3K 1/6W CARBON RES.	
	R744	QRD161J-132	1.3K 1/6W CARBON RES.	
	R745	QRD161J-391	390 1/6W CARBON RES.	
	R746	QRD161J-391	390 1/6W CARBON RES.	
	R747	QRD161J-102	1K 1/6W CARBON RES.	
	R748	QRD161J-102	1K 1/6W CARBON RES.	
	R749	ERT-D2WHL202S	2K 1/4W NEGATIVE THE	
	R750	ERT-D2WHL202S	2K 1/4W NEGATIVE THE	
⚠	R751	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R752	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R753	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R754	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R755	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R756	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R757	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R758	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R759	QRD14CJ-272S	2.7K 1/4W UNF.CARBON R	
⚠	R760	QRD14CJ-272S	2.7K 1/4W UNF.CARBON R	
⚠	R765	QRD14CJ-271S	270 1/4W UNF.CARBON R	
⚠	R766	QRD14CJ-271S	270 1/4W UNF.CARBON R	
⚠	R767	QRD14CJ-120SX	12 1/4W UNF.CARBON R	
⚠	R768	QRD14CJ-120SX	12 1/4W UNF.CARBON R	
⚠	R769	QRD14CJ-120SX	12 1/4W UNF.CARBON R	
⚠	R770	QRD14CJ-120SX	12 1/4W UNF.CARBON R	
⚠	R771	ERF032K-R22	0.22 3W CEM.RES.	
⚠	R772	ERF032K-R22	0.22 3W CEM.RES.	
⚠	R773	QRD125J-330	33 1/2W UNF.CARBON R	
⚠	R774	QRD125J-330	33 1/2W UNF.CARBON R	
⚠	R775	QRG022J-100A	10 2W OXIDE METAL	
⚠	R776	QRG022J-100A	10 2W OXIDE METAL	
	R781	QRD161J-181	180 1/6W CARBON RES.	
	R782	QRD161J-181	180 1/6W CARBON RES.	
	R783	QRD161J-181	180 1/6W CARBON RES.	
	R784	QRD161J-181	180 1/6W CARBON RES.	
	R785	QRD167J-121	120 1/6W CARBON RES.	
	R786	QRD167J-121	120 1/6W CARBON RES.	
	R787	QRD167J-121	120 1/6W CARBON RES.	
	R788	QRD167J-121	120 1/6W CARBON RES.	
	R801	QRD161J-104	100K 1/6W CARBON RES.	
	R802	QRD161J-104	100K 1/6W CARBON RES.	
⚠	R808	QRD14CJ-3R3S	3.3 1/4W UNF.CARBON R	
⚠	R812	QRD14CJ-220S	22 1/4W UNF.CARBON R	
	R820	QRD167J-332	3.3K 1/6W CARBON RES.	
⚠	R840	QRD14CJ-220S	22 1/4W UNF.CARBON R	
⚠	R841	QRG022J-331A	330 2W OXIDE METAL	
⚠	R842	QRD12CJ-103S	10K 1/2W UNF.CARBON R	
	R845	QRD14CJ-102SX	1K 1/4W UNF.CARBON R	
⚠	R853	QRX012J-2R2AF	2.2 1W METAL FILM R	
⚠	R854	QRD12CJ-822S	8.2K 1/2W UNF.CARBON R	
	R885	QRD161J-104	100K 1/6W CARBON RES.	
⚠	R891	QRD14CJ-100SX	10 1/4W UNF.CARBON R	
⚠	R892	QRD14CJ-272S	2.7K 1/4W UNF.CARBON R	
	R901	QRD161J-102	1K 1/6W CARBON RES.	
	R902	QRD161J-102	1K 1/6W CARBON RES.	
	R903	QRD167J-153	15K 1/6W CARBON RES.	
	R904	QRD167J-153	15K 1/6W CARBON RES.	
	R905	QRD161J-123	12K 1/6W CARBON RES.	
	R906	QRD161J-123	12K 1/6W CARBON RES.	
	R909	QRD161J-104	100K 1/6W CARBON RES.	
	R910	QRD161J-823	82K 1/6W CARBON RES.	
	R911	QRD167J-332	3.3K 1/6W CARBON RES.	
	R912	QRD161J-473	47K 1/6W CARBON RES.	
	R913	QRD161J-103	10K 1/6W CARBON RES.	
	R915	QRD161J-823	82K 1/6W CARBON RES.	
	R916	QRD161J-563	56K 1/6W CARBON RES.	

Electrical Parts List (ENH-288)

⚠	Item	Parts Number	Description	Area
	R917	QRD161J-683	68K 1/6W CARBON RES.	
	R918	QRD161J-392	3.9K 1/6W CARBON RES.	
	R919	QRD161J-122	1.2K 1/6W CARBON RES.	
	R920	QRD161J-224	220K 1/6W CARBON RES.	
⚠	R921	QRD14CJ-470SX	47 1/4W UNF.CARBON R	
	R925	QRD167J-562	5.6K 1/6W CARBON RES.	
	R926	QRD167J-822	8.2K 1/6W CARBON RES.	
	R927	QRD161J-103	10K 1/6W CARBON RES.	
	R929	QRD161J-333	33K 1/6W CARBON RES.	
	R930	QRD161J-333	33K 1/6W CARBON RES.	
⚠	R951	QRD14CJ-220S	22 1/4W UNF.CARBON R	
	R955	QRD161J-102	1K 1/6W CARBON RES.	
	R956	QRD161J-333	33K 1/6W CARBON RES.	
⚠	R961	QRG022J-471A	470 2W OXIDE METAL	
⚠	R962	QRG022J-471A	470 2W OXIDE METAL	
	VR511	QVDA96W-E15DJ3	100K VARIABLE RES.	
	VR521	QVDB96C-E15CJ3	100K VARIABLE RES.	
	VR531	QVDB96C-E15CJ3	100K VARIABLE RES.	
	VR741	QVPA601-501A	500 TRIMMER RES.	
	VR742	QVPA601-501A	500 TRIMMER RES.	
		OTHERS		
		EMW10626-004	PRINTED BOARD	
		QWE881-16RR	VINYL WIRE	
		QWE886-16RR	PIN WIRE	
		SBSG3008CC	TAPPING SCREW	
	J661	EMN00YV-406AJ1	PIN JACK	
	J951	EMN00TV-118A	PIN JACK	
	L051	EQL0011-R45J1	INDUCTOR	
	L581	EQL0011-R45J1	INDUCTOR	
	L771	EQL0011-R45J1	INDUCTOR	
	L772	EQL0011-R45J1	INDUCTOR	
	S901	QSP6002-E02J2	PUSH SWITCH	
⚠	T002	ETP1000-41JA	POWER TRASNFORMER	
	CN313	EMV5163-005R	CONNECTOR	
	CN521	EMV7163-011	CONNECT TERMINAL	
	CN701	EMV5163-010R	CONNECT TERMINAL	
	CN702	EMV5163-010R	CONNECT TERMINAL	
	CN703	EMV5163-005R	CONNECTOR	
	CN711	EMV7163-010	CONNECT TERMINAL	
	CN712	EMV7163-010	CONNECT TERMINAL	
	CN713	EMV7163-005	CONNECTOR	
	CN801	EMV7123-013	CONNECT TERMINAL	
	CN852	EMV7122-103	SOCKET ASSY	
	CN853	EMV7122-103	SOCKET ASSY	
	CN891	EMV7122-103	SOCKET ASSY	
	CN941	VMC0177-003	CONNECT TERMINAL	
	CN951	VMC0178-003	CONNECT TERMINAL	
	CN961	EMV7122-103Z	SOCKET ASSY	
	EP491	E409182-001SM	EARTH TERMINAL	
	EP501	EMZ4002-001Z	EARTH PLATE	
	EP700	EMZ4002-001Z	EARTH PLATE	
	FC101	EMG7331-003Z	FUSE CLIP	
	FC102	EMG7331-003Z	FUSE CLIP	
	FC810	EMG7331-003Z	FUSE CLIP	
	FC811	EMG7331-003Z	FUSE CLIP	
	FC812	EMG7331-003Z	FUSE CLIP	
	FC813	EMG7331-003Z	FUSE CLIP	
	FW801	EWR3AD-13SS	FLAT WIRE	
	FW901	EWR36D-40SS	CORD	
	HS003	E70306-001	HEAT SINK	
	LA101	E61380-030	FUSE LABEL	
⚠	RY001	ESK1D12-119J3	RELAY	
⚠	RY801	ESK1D12-119J3	RELAY	
⚠	RY802	ESK1D12-119J3	RELAY	
	RY901	ESK7D24-213R	RELAY	
	RY951	ESK7D24-213R	RELAY	
	ST901	FMMJ4002-001	SPEAKER TERMINAL	
	ST951	EMB90TV-601G	SPEAKER TERMINAL	
	TA001	EMZ4001-001	TAB	
	TA002	EMZ4001-001	TAB	
	TP001	QMV5005-004K	PLUG ASSY	

Packing Materials and Part Numbers

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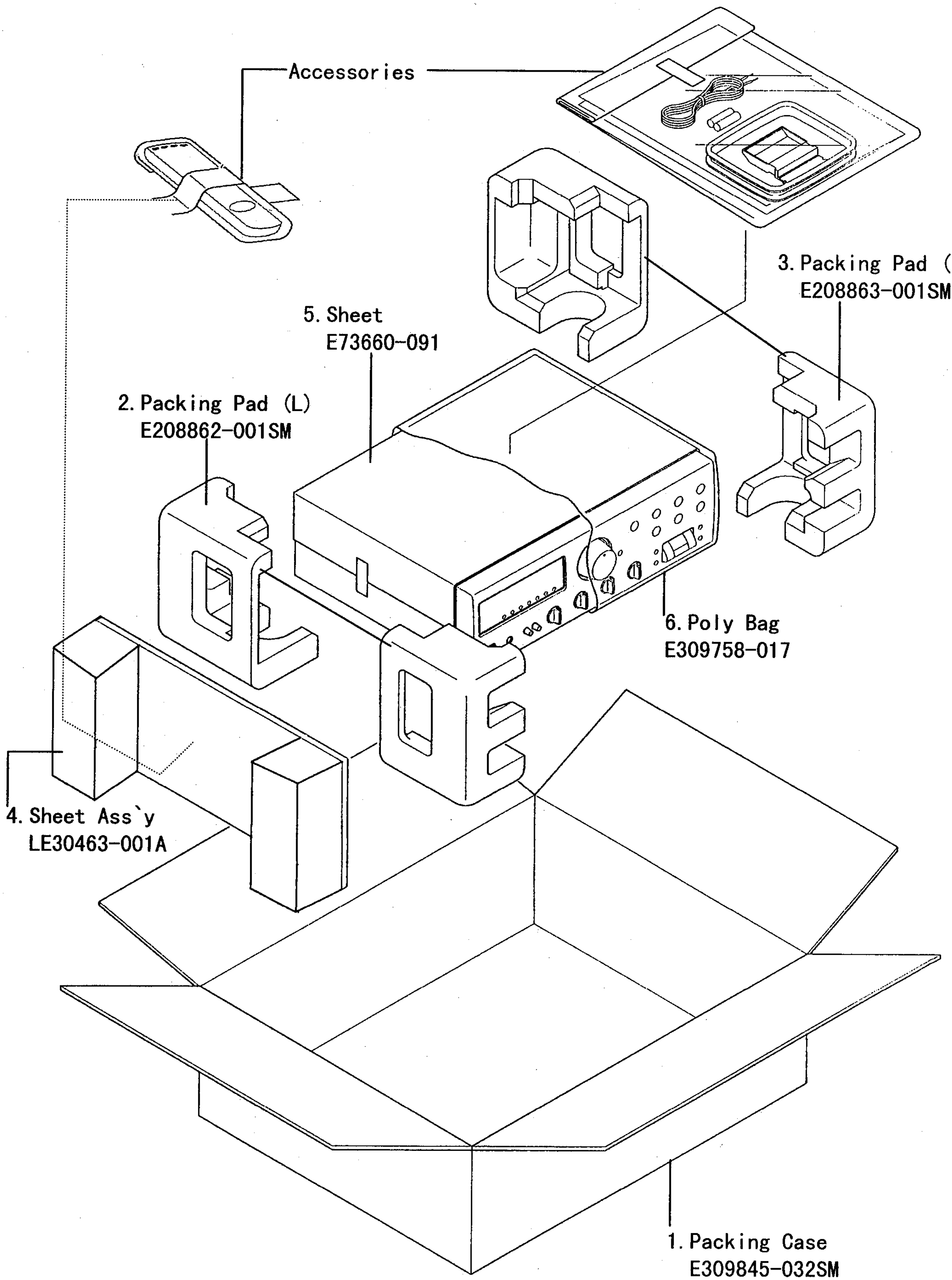
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5. Sheet
E73660-091
2. Packing Pad (L)
E208862-001SM
6. Poly Bag
E309758-017
4. Sheet Ass`y
LE30463-001A
1. Packing Case
E309845-032SM

–MEMO–

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